

# KV-M1100D

## RM-818

# SERVICE MANUAL

AEP Model

Chassis No. SCC-F04A-A



## EE-1 CHASSIS

MODELS OF THE SAME SERIES	
KV-M1100D	KV-M1100E
KV-M1100A	
KV-M1100B	

### SPECIFICATIONS

#### 【KV-M1100D】

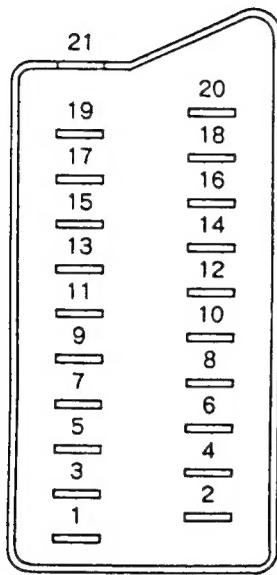
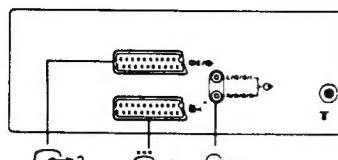
Television system	B/G/H/I/L	Dimensions	Approx. 296.2 × 261.0 × 328.5mm (w/h/d)
Color system	PAL, SECAM, NTSC3.58, NTSC4.43	Weight	Approx. 8.5 kg
Channel coverage	ITALIA VHF : A-H2 (C) UHF : 21-69 PAL B/G VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10	Supplied accessories	RM-818 Remote Commander (1) IEC designation R6 batteries (2) Terescopic antenna (1) DC cord (1) AC cord (1)
Frequency medium	Mono-Standard F1 : Video 38.9MHz F1 : Audio 33.4MHz		
Picture tube	Trinitron tube Approx. 28 cm (Approx. 26 cm picture measured diagonally) 90 °-degree deflection		
Inputs	1 21-pin connector : CENELEC standard including RGB input. Y : 1Vp-p±3dB 75ohm C : 0.3Vp-p±3dB 75ohm	【RM-818】	infrared control 3V dc 2 batteries IEC designation R6 (size AA)
Outputs	21-pin connector : CENELEC standard Earphones jack : minijack	Dimensions	Approx. 44 × 25.3 × 108.4mm (w/h/d)
Sound output	2.5W (Music)	Weight	Approx. 105g (including batters)
Power consumption	56 Wh	Design and specifications are subject to change without notice.	

TRINITRON® COLOR TV  
**SONY**®



MICROFILM

**21 pin connector (2-1, 2-2)**



Pin No.	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
2	○	○	Audio input B (right)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
3	○	○	Audio output A (left)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
7	○	●	Blue input	0.7V ± 3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5 – 12V): Part mode Low state (0 – 2V): TV mode Input impedance: More than 10kohms Input capacitance: Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal: 0.7V ± 3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	—	Red input	0.7V ± 3dB, 75ohms, positive
	—	○	(S signal) croma input	0.3V ± 3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1 – 3V) Low state (0 – 0.4V) Input impedance: 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V ± 3dB, 75ohms, positive Sync: 0.3V (-3, +10dB)
20	○	—	Video input	1V ± 3dB, 75ohms, positive Sync: 0.3V (-3, +10dB)
	—	○	Video Input/Y (S signal)	1V ± 3dB, 75ohms, positive Sync: 0.3V (-3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected

● unconnected (open)

\* at 20Hz – 20kHz

**4 pin connector (S-)**

Pin No.	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB, 75ohms, positive Sync: 0.3V : $\frac{3}{10}$ dB
4	C (S signal) input	0.3V ± 3dB, 75ohms, positive

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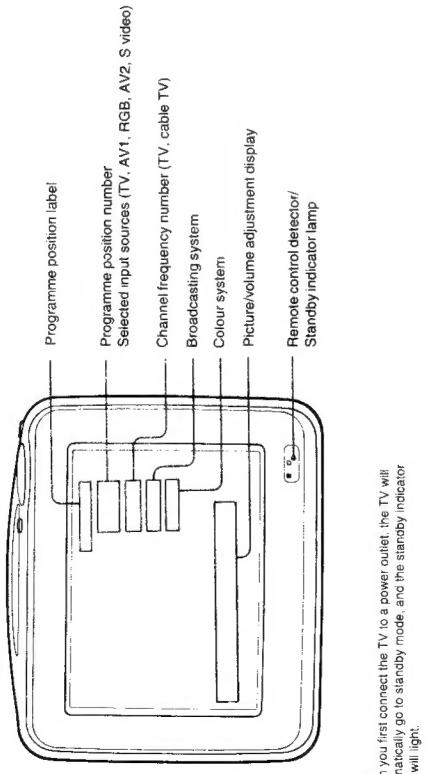
## SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

## Identifying the Parts

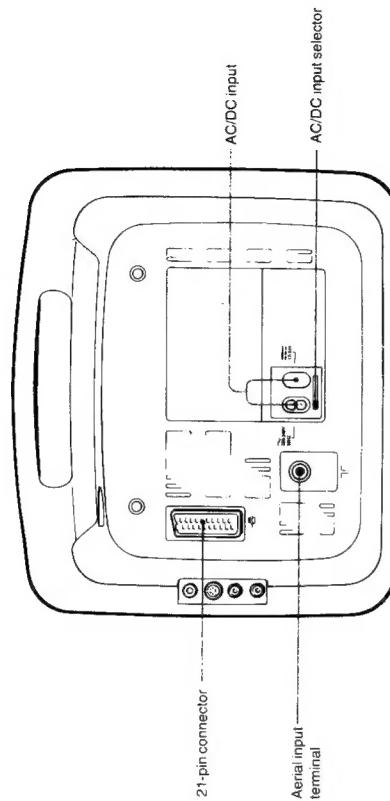
### Front controls and screen displays

Rear of the TV



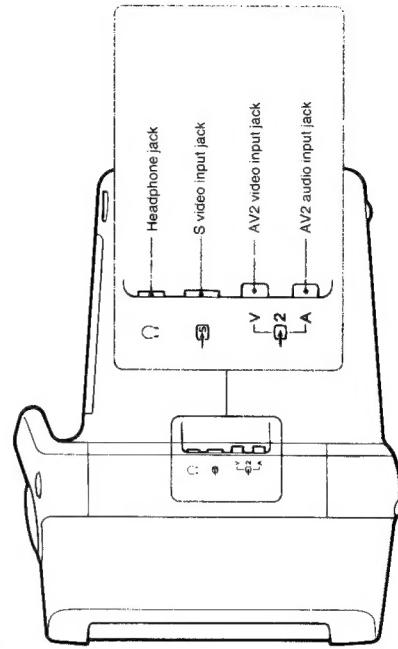
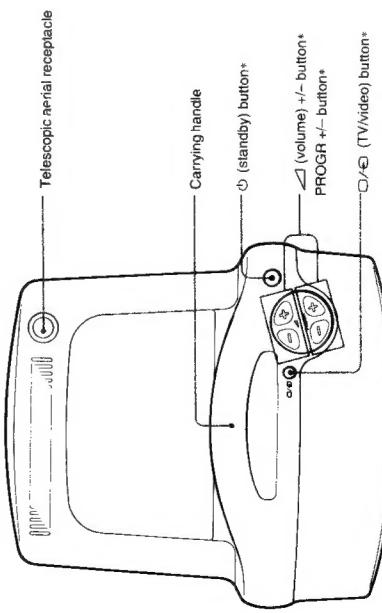
Top of the TV

When you first connect the TV to a power outlet, the TV will automatically go to standby mode, and the standby indicator lamp will light.



Side view

The symbol marks that appear at the side of the TV correspond to the jacks located on the recessed rear of the TV.



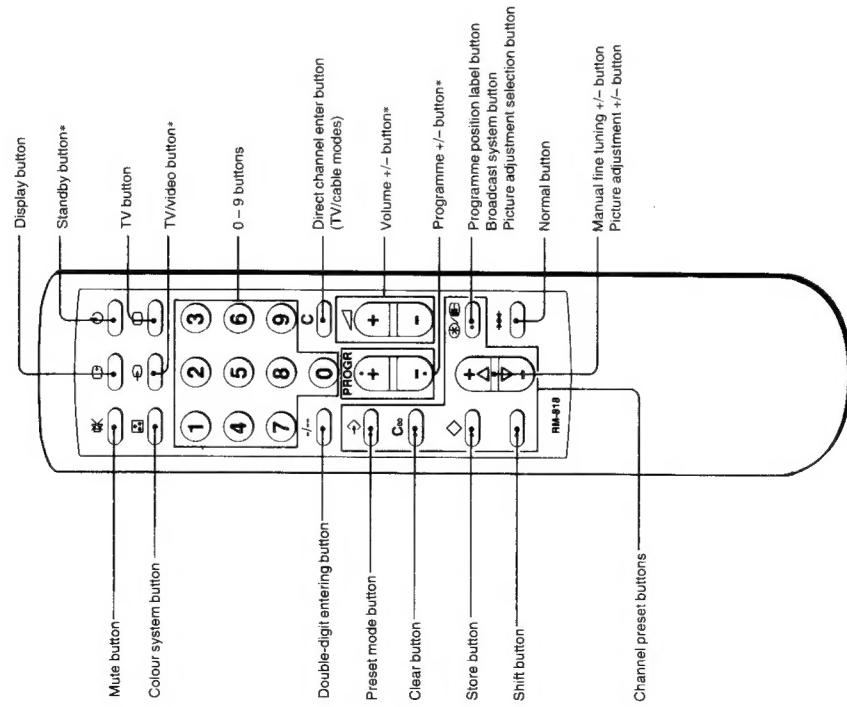
This section is extracted from instruction manual.

GB

## Identifying the Parts

### Remote Commander RM-818

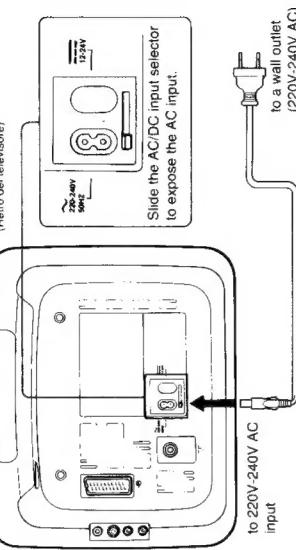
Most of the functions of the TV require the Remote Commander.  
Take care not to lose it.



## Chapter 1: Preparing for Use Setting Up Your TV

**Using household (AC) current**  
To watch your TV using household current, attach the supplied AC power cord as shown below.

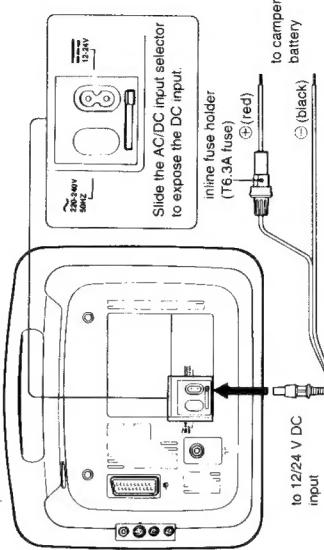
(Rear of TV)



(Rear of TV)

**Using a car battery**  
You can use the power from your camper van's battery by attaching the supplied DC power cord to the battery. (Attach the cord using clips designed for this purpose — not supplied).

(Rear of TV)



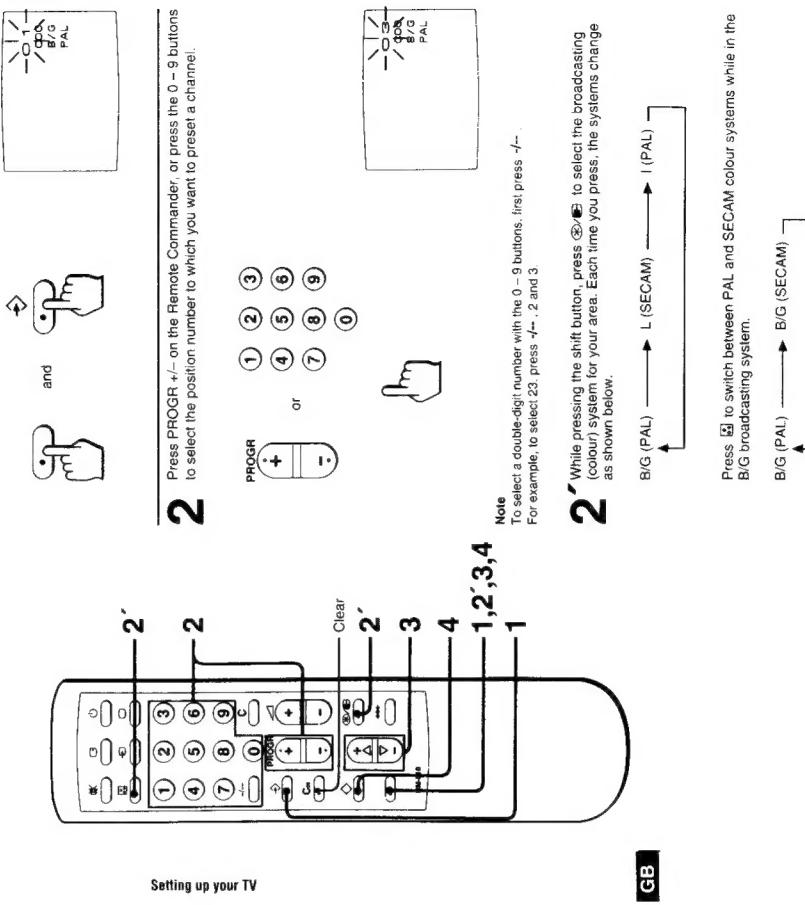
Notes

- For car use, the TV is designed to be operated on negative ground 12V-24V DC only.
- Use the supplied DC power cord manufactured by Sony. The polarity of other manufacturers' cord plugs may be different.
- When you are not using the TV, disconnect the DC power cord. If you don't, battery power will be lost, even in standby mode.
- In hot temperatures, do not leave the TV in the car for a long time.
- If colour separation occurs when the TV is connected to a DC power source, switch to household (AC) current.
- When battery power falls below 12V the TV automatically switches off and goes to standby mode. (The standby lamp blinks for several seconds, then turns off.) First recharge the battery, then press the PROGR +/- button on the TV or press on the Remote Commander to turn the TV on.
- Do not connect the DC power cord to the AC power input, or the AC power cord to the DC power input.
- If you connect the DC power cord to the AC power outlet, or to the incorrect pole of the camper van's battery, the inline (16.3A) fuse will burn out. Replace a burned out fuse only with the same type fuse.

## Presetting Channels

You can preset up to 60 channels onto programme position numbers (00 – 59). Then select those position numbers to view the channels.

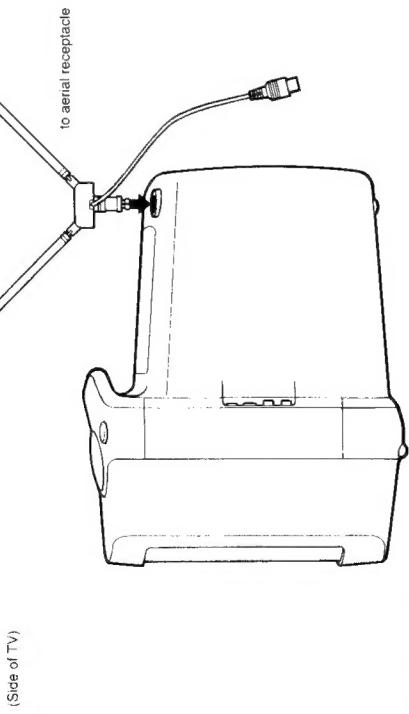
Presetting channels automatically



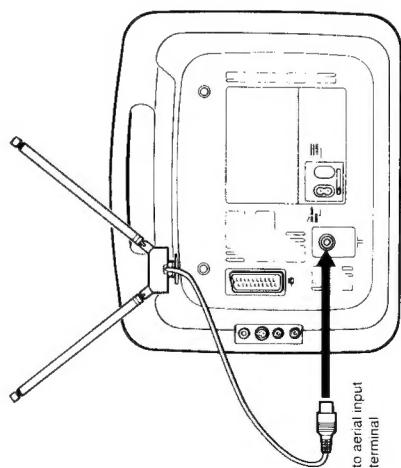
## Setting up your TV

5

## Attaching the telescopic aerial (supplied)



Attach the aerial connector plug to the aerial input terminal (rear of TV).



late to receive cable TV, contact your local cable company for cable connection.

note  
to rec  
one

## Presetting Channels

**3** While pressing the shift button, press manually line tuning  $+$ / $-$  to search for channels forward or backward automatically. The TV will search for available channels, beginning with the lowest available frequency number (VHF/UHF/CATV [Hyper-band]), and stop when a channel is turned in.



**4** While pressing the shift button, press  $\diamond$  to preset the channel which is tuned in.

**4** While pressing the shift button, press  $\diamond$  to preset the channel which is tuned in.

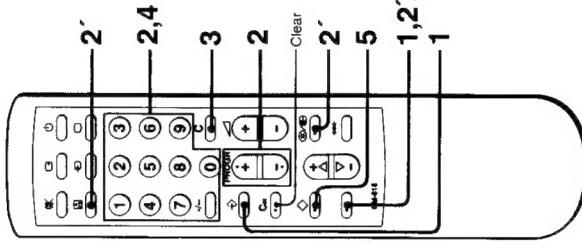


The channel is now preset and you will return to TV mode automatically.

**To preset other channels**  
Repeat steps 1 – 4.

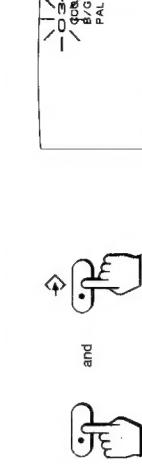
**3** While pressing the shift button, press manually line tuning  $+$ / $-$  to search for a turned-in channel. Press manual fine tuning  $+$ / $-$  again. To clear a programme position While pressing the shift button, press **C**. The programme position will be cleared, and the channel frequency number '00' will be selected. To exit preset mode While pressing the shift button, press  $\diamond$ .

### Presetting channels directly

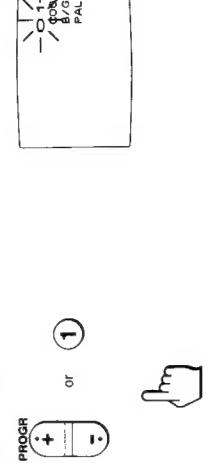


Presetting channels

**3** When you know the number of the channel you want to preset, follow the steps below to preset channels directly. For example, preset channel 3 onto position number 1.



**2** Press PROGR  $+$ / $-$  on the Remote Commander, or press 1 to select position number 1.



**Note**  
To select a double-digit number with the 0 – 9 buttons, first press  $\diamond$ . For example, to select 23, press  $\diamond$ , 2, and 3.

**2** While pressing the shift button, press  $\diamond$  to select the broadcasting (colour) system for your area. Each time you press, the systems change as shown below.



Press  $\diamond$  to switch between PAL and SECAM colour systems while in the B/G broadcasting system.



## Presetting channels

**3** Press **C** to select the mode you want to preset. Press once to select regular TV mode; press twice to select cable TV mode.



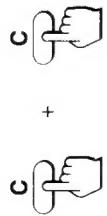
TV mode



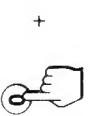
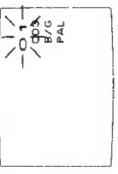
Cable TV mode

**To clear a programme position**  
While pressing the shift button, press **C**.

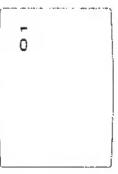
**To exit preset mode**  
While pressing the shift button, press **→**.



**4** Press **0** and **3** to tune in channel 3 (you must press **0**).



**5** While pressing the shift button, press **◇** to preset the channel.

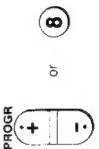


The channel is now preset and you have returned to TV mode.  
**To preset other channels**  
Repeat steps 1 - 5.

## Labelling programme positions

You can identify each programme position with a label of up to five characters to help you remember your preset channels. The label will appear every time the position number is displayed.  
For example: label programme position 8 as 'NEWS1'.

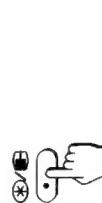
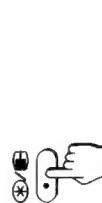
**1** Press PROGR **+/−** on the Remote Commander, or press 8 to select position number 8.



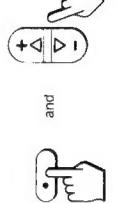
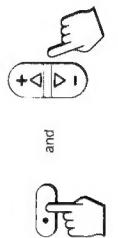
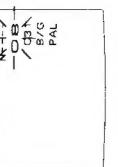
**2** While pressing the shift button, press **→** to enter preset mode.



**3** Press **⊗** and **GB**.  
The five label spaces will appear.



**4** While pressing the shift button, press manual fine tuning **+/−** to select the letter 'N'.  
(Numbers, letters of the alphabet and "—" (blank space) will appear sequentially each time you press manual fine tuning **+/−**.)





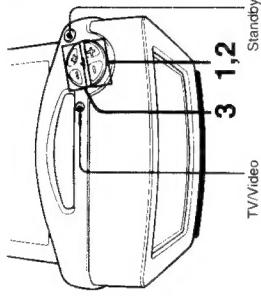
## **Watching TV Programmes**

*Chapter 2: Operating Your TV*

While pressing the shift button, press  $\diamond$  to set the position to be skipped. You will return to TV mode automatically. The next time you press PROGR +/–, position 5 will be skipped.

- To cancel the skip setting  
Press: a channel onto the position number, following the steps on pp. 40, 41 or 42, 43.
- To exit skip mode  
While pressing the shift button, press ↗.

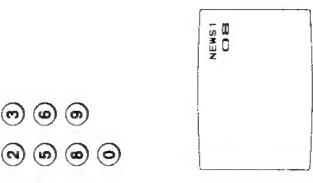
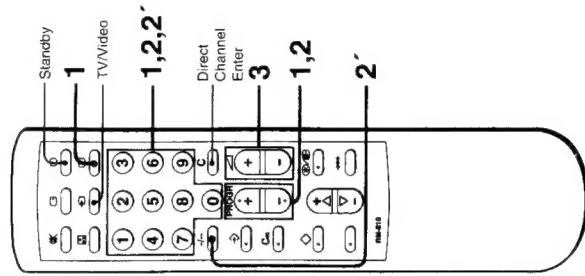
Preset channels first, following the instructions on pp. 40 – 47.



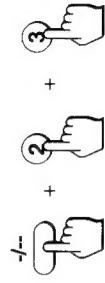
o skip other channels  
repeat steps 1 - 4.



Press PROGR +/- on the TV or Remote Commander, or press the 0 - 9



2 Press  $\text{--/-}$  first to select a double-digit number. For example, to select programme number 23, press  $\text{--/-}$ , 2 and 3.



## Adjusting the Picture

To view the input from connected video equipment

Press **C** or **AV** to select the video input mode. **C1** (AV 1), **C2** (RGB), **C3** (AV 2), **C4** (S input) and TV modes will be selected in sequence. For further details, see pages 52 - 55.

**To listen through a headphone**

Connect a headphone (not supplied) to **C** (the headphone jack) at the side of the TV (page 35).

**To turn off the TV**

Press **Q** on the TV or Remote Commander to turn the TV to standby mode. To turn the power off completely, disconnect the power cord.

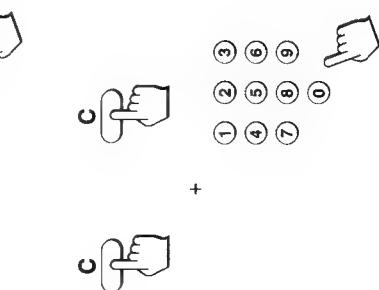
Press + to increase the volume.  
Press - to decrease the volume.

**To tune in a channel temporarily**

If you know the channel frequency number, you can tune in a channel temporarily, without presetting.

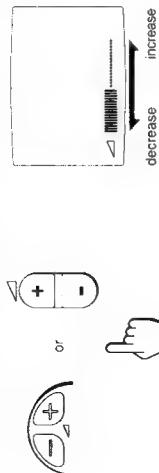
Press **C** to select the mode you want to watch. (Press once to select regular TV mode, press twice to select cable TV mode.) Then press the 0 - 9 buttons to select the channel.

The channel will be received. But it is not preset to any position number.



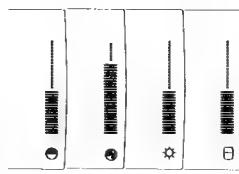
**Note**  
To select a double-digit number, press **+** before pressing the 0 - 9 buttons.

**3** Press **C** or **+** on the TV or Remote Commander to adjust the volume.



**Use the picture adjustment feature to adjust the TV or video input picture to your taste.**

Press **C** to enter picture adjustment mode. Press repeatedly to select the quality you want to adjust. (Picture, colour, bright, hue [NTSC colour system only] and sharpness are selected in sequence.)



**1**



**2** Press picture adjustment +/- to make the adjustment.



Picture quality	Press - button	Press + button
(picture)	To decrease picture contrast with soft colour	To increase picture contrast with vivid colour
(colour)	To decrease colour intensity	To increase colour intensity
(bright)	To decrease brightness	To increase brightness
(hue) (NTSC only)	Skin tones become purplish	Skin tones become greenish
(sharpness)	To decrease sharpness	To increase sharpness

The display will disappear automatically after a few seconds, if you do not press any buttons.  
All the qualities will be restored to their original factory-set levels.

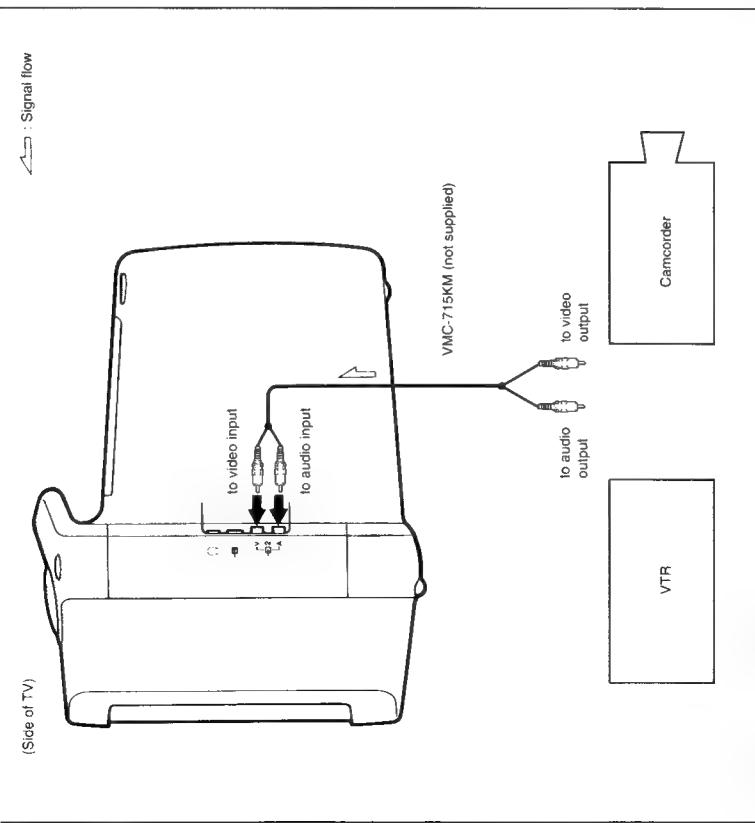
**To restore the original settings**

Press \*\*\*.

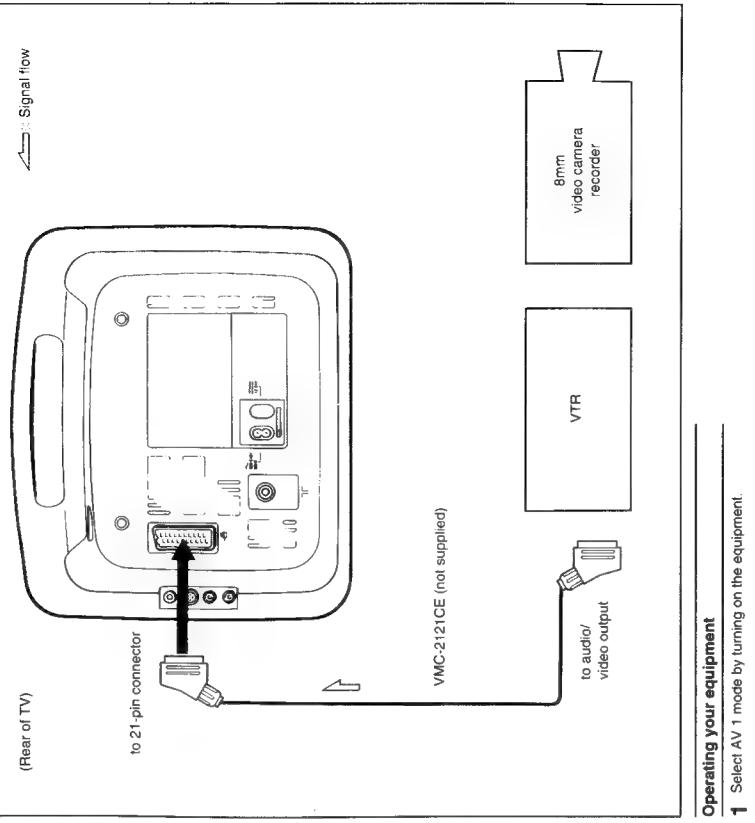


## Connecting Optional Equipment

### Connecting a VTR or Camcorder not equipped with an S video output jack



### Connecting video equipment using the 21-pin connector



#### Operating your equipment

- 1 Select AV 2 mode by pressing  $\square/\triangle$  on the TV or  $\square$  on the Remote Commander until  $\square/2$  appears on the screen.

- 2 Set the equipment to playback mode.

**To return to TV mode**  
Press  $\square$  on the Remote Commander to return directly to TV mode, or turn the video equipment off.

#### Operating your equipment

- 1 Select AV 1 mode by turning on the equipment.

- 2 Set the equipment to playback mode.

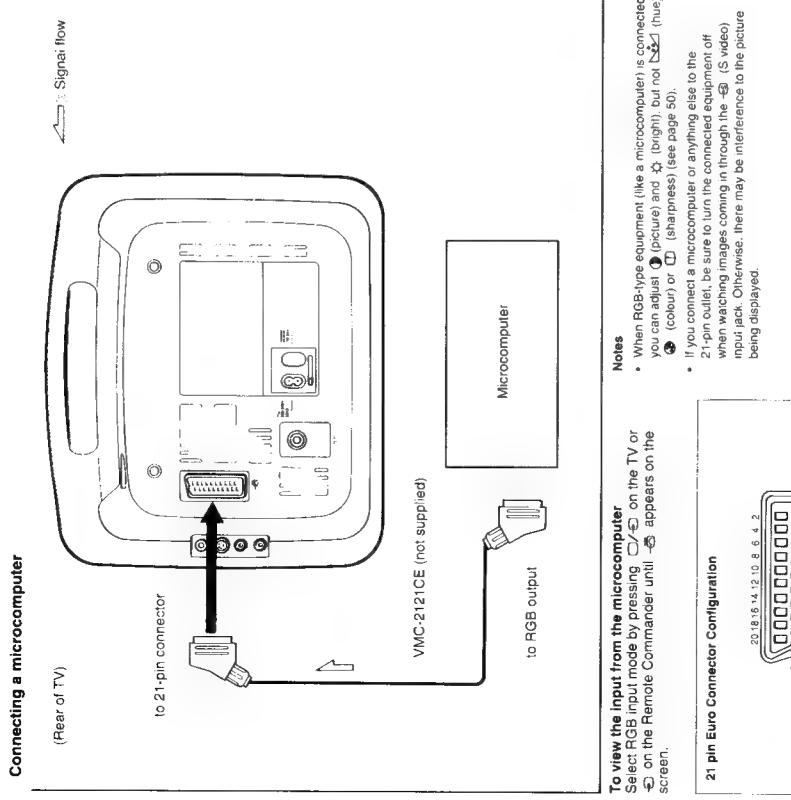
**To return to TV mode**  
Press  $\square$  on the Remote Commander to return directly to TV mode, or turn the video equipment off.

# Troubleshooting

Disturbances in picture and sound can often be eliminated by checking the symptoms and following the suggestions listed here. If the problem still cannot be solved, contact your nearest service facility.

Specifications & Receivable channels	
Troubleshooting	
No picture (screen not lit), no sound	<ul style="list-style-type: none"> <li>Plug the TV in, and check the power connection.</li> <li>Press PROG R  or the 0-9 buttons on the TV or press PROG R  or the 0-9 buttons on the Remote Commander.</li> <li>Check the aerial connection.</li> <li>Check the TV/video input setting.</li> <li>Turn the TV off for 3 or 4 seconds and then turn it on again.</li> </ul>
Poor or no picture (screen not lit), good sound	<ul style="list-style-type: none"> <li>Adjust the picture with the picture adjustment button (page 50).</li> <li>Adjust the telescopic aerial.</li> </ul>
Good picture, no sound	<ul style="list-style-type: none"> <li>Press  + on the TV or Remote Commander.</li> <li>Disconnect the headphones.</li> <li>If  is displayed on the screen, press  or  +/-.</li> </ul>
No colour for colour programmes	<ul style="list-style-type: none"> <li>Adjust the colour with the picture adjustment button.</li> <li>Adjust the telescopic aerial.</li> <li>Press  on the Remote Commander to change colour systems.</li> </ul>
Snow and noise only	<ul style="list-style-type: none"> <li>Check that it is an active or correct channel.</li> <li>Check the cable setting.</li> <li>Check aerial/cable connections.</li> </ul>
Dotted lines or stripes	<p></p> <p>This is often caused by local interference (for example, cars, neon signs and hairdryers). Adjust the telescopic aerial for minimum interference.</p>
Double images or ghosts	<p></p> <p>Reflections from nearby mountains or buildings often cause this problem. Connecting CATV cable may improve the picture.</p>
Try another channel. It could be station trouble.	

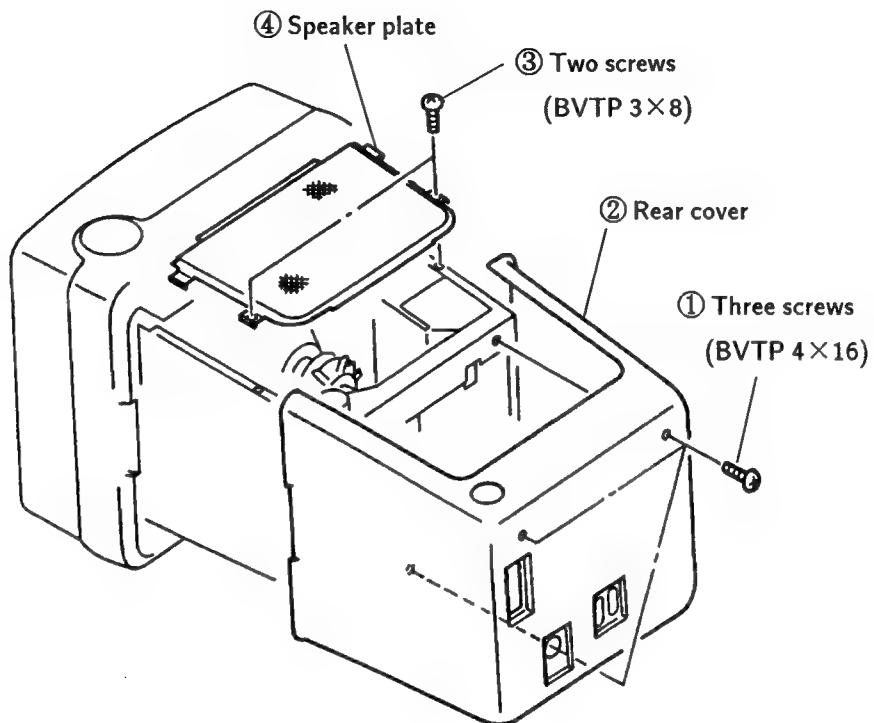
GB



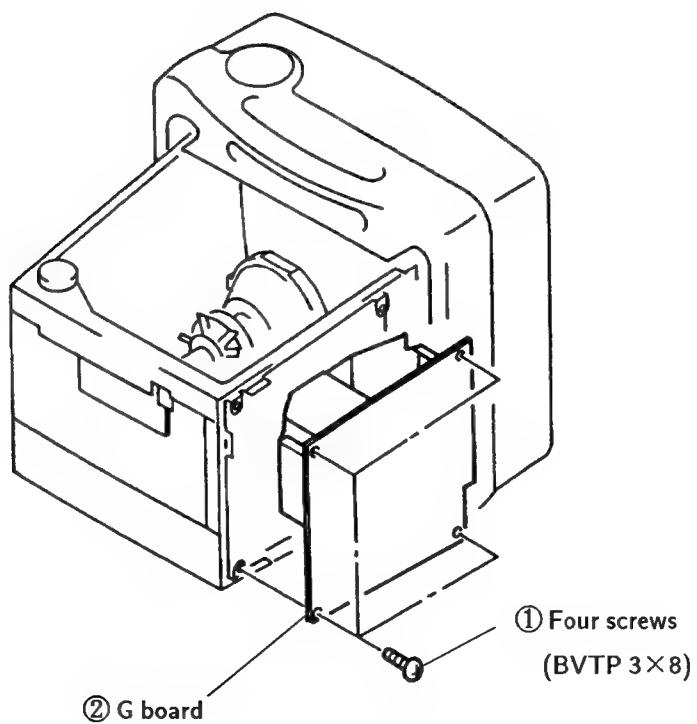
GB

## SECTION 2 DISASSEMBLY

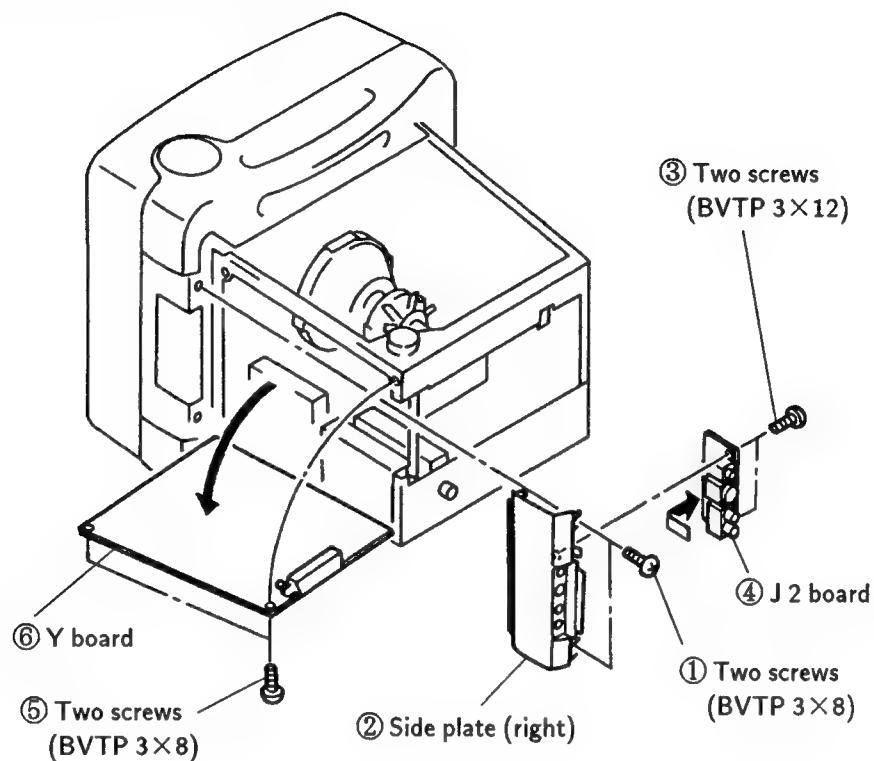
### 2-1. REAR COVER REMOVAL



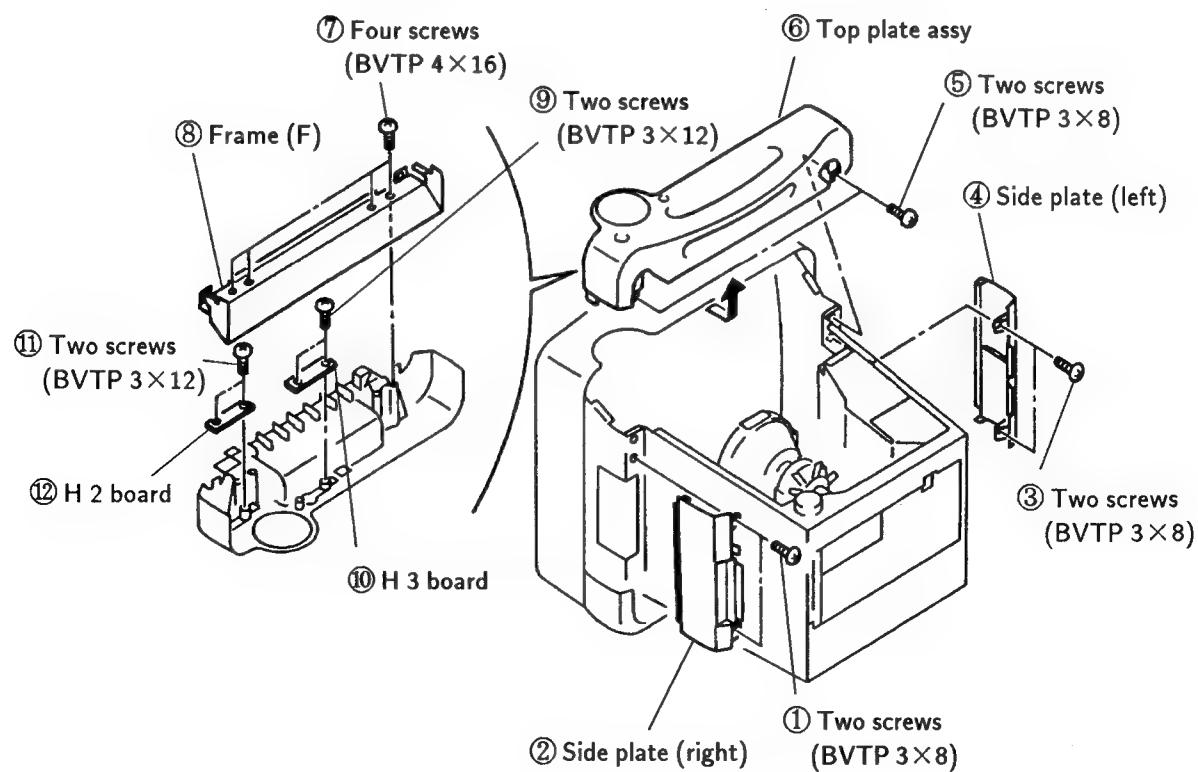
### 2-2. G BOARD REMOVAL



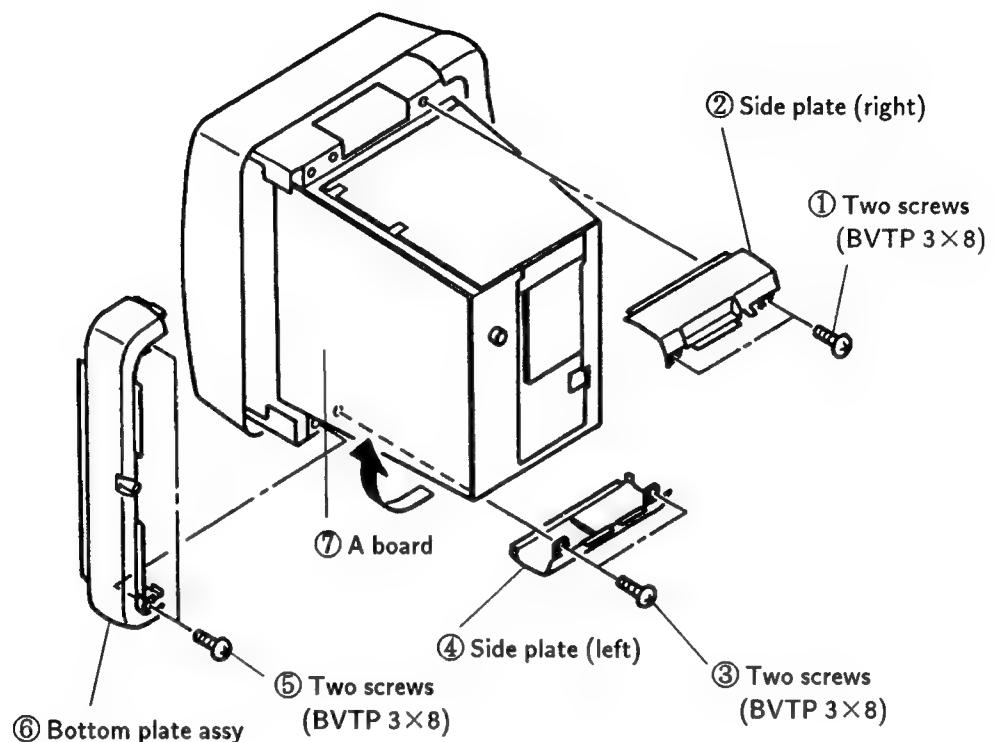
### 2-3. J 2 AND Y BOARD REMOVAL



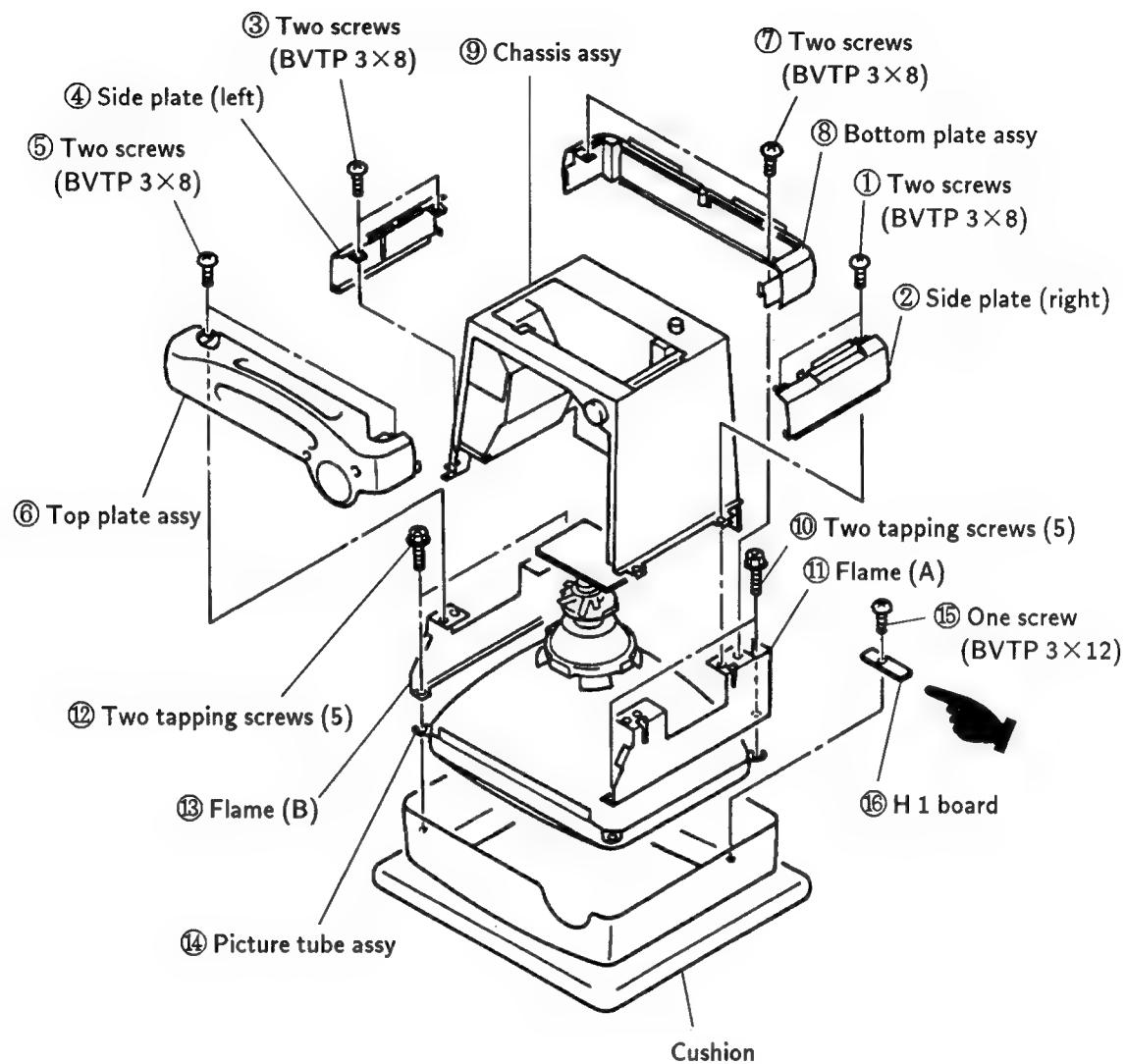
### 2-4. H 2 AND H 3 BOARD REMOVAL



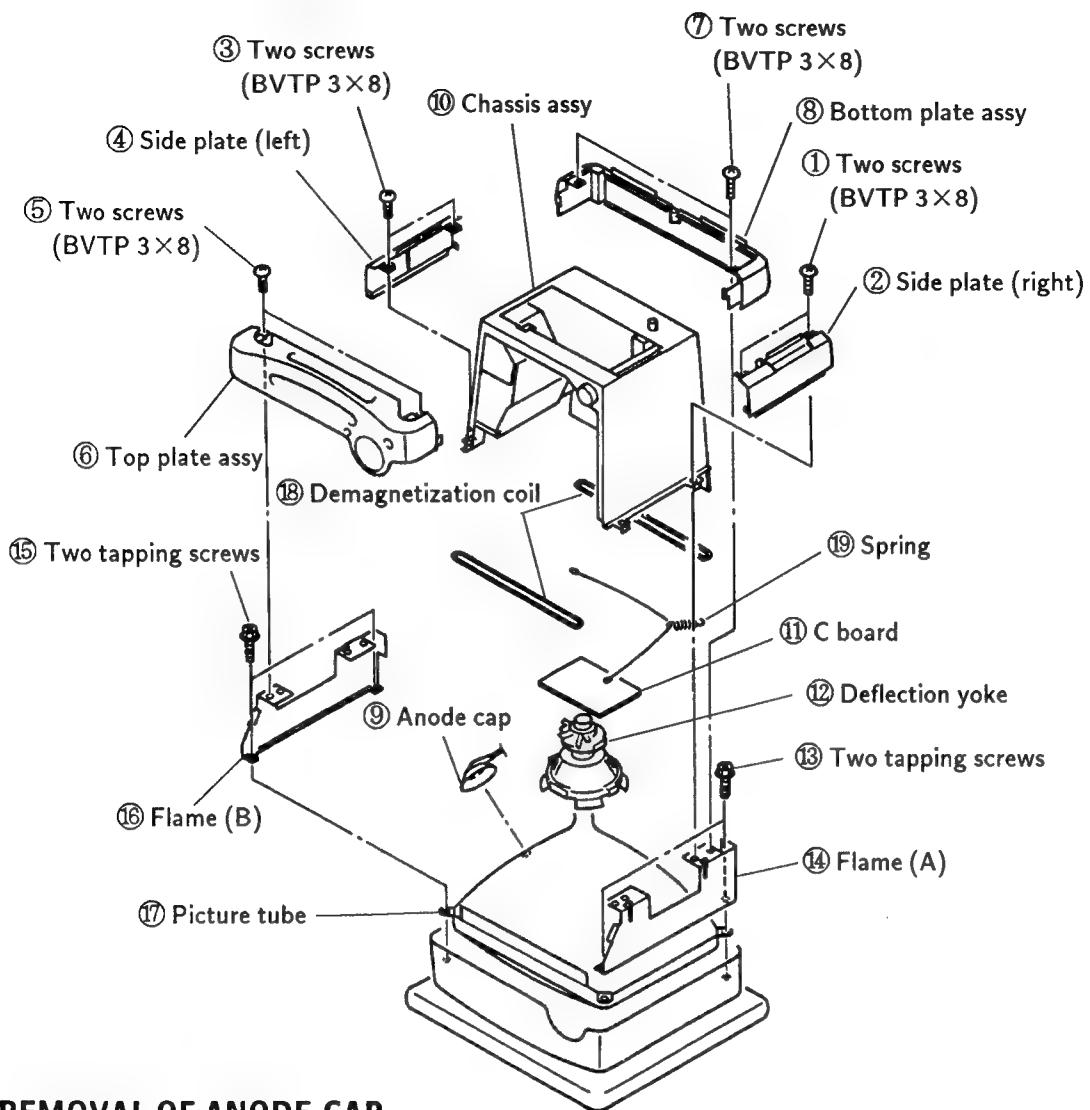
## 2-5. SERVICE POSITION



## 2-6. H 1 BOARD REMOVAL



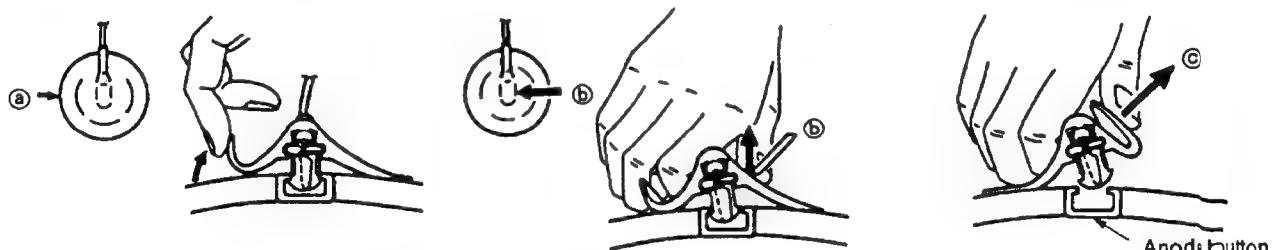
## 2-7. PICTURE TUBE REMOVAL



## • REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

## • REMOVING PROCEDURES



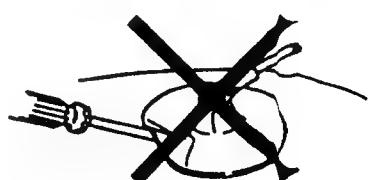
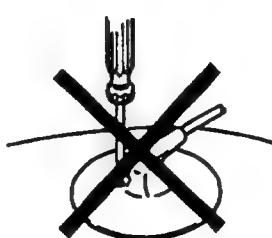
① Turn up one side of the rubber cap in the direction indicated by the arrow ④.

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⑤.

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⑥.

## • HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!  
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!  
The shatter-hook terminal will stick out or hurt the rubber.



## SECTION 3

### SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted. The controls and switch below should be set as follows unless otherwise noted :

● CONTRAST control ..... 80% (or Normal by commander)

● BRIGHTNESS control ..... 50%

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G 2) and White Balance

**Note:** Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

#### Preparation:

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser..

#### 3-1. BEAM LANDING

Demagnetize with a degausser

1. Input a raster signal with the pattern generator.

CONTRAST      }  
BRIGHTNESS      } normal

2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides evenly. (Fig.3-1 to 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig.3-1)
5. Switch over the raster signal to blue and green confirm the condition.
6. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
7. When landing at the corner is not right, adjust by using the disk magnets. (Fig.3-4)

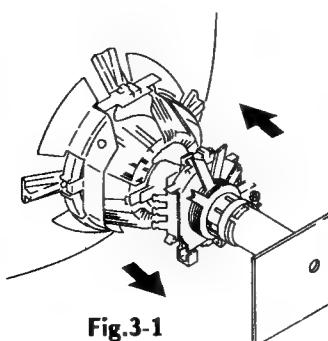


Fig.3-1

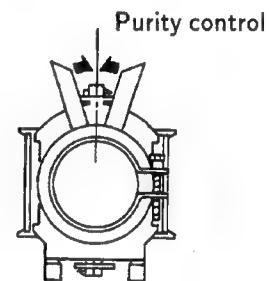


Fig.3-2

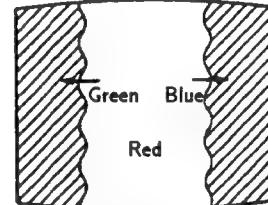


Fig.3-3

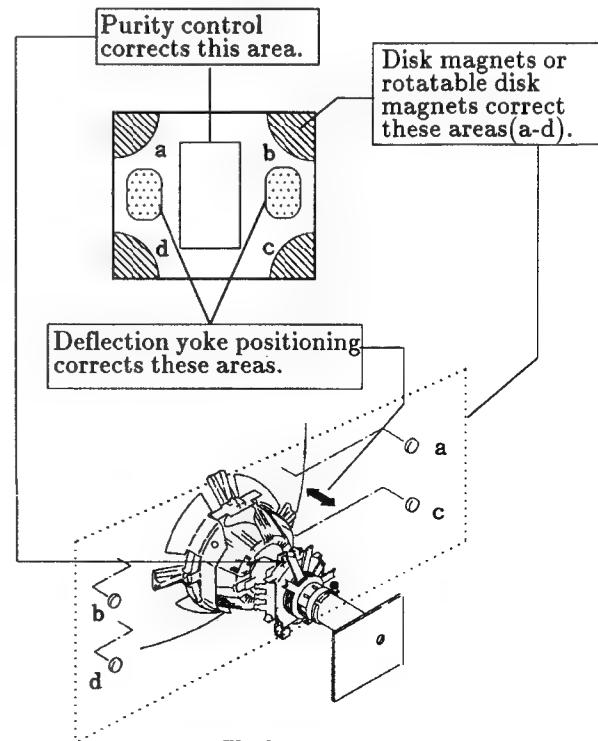


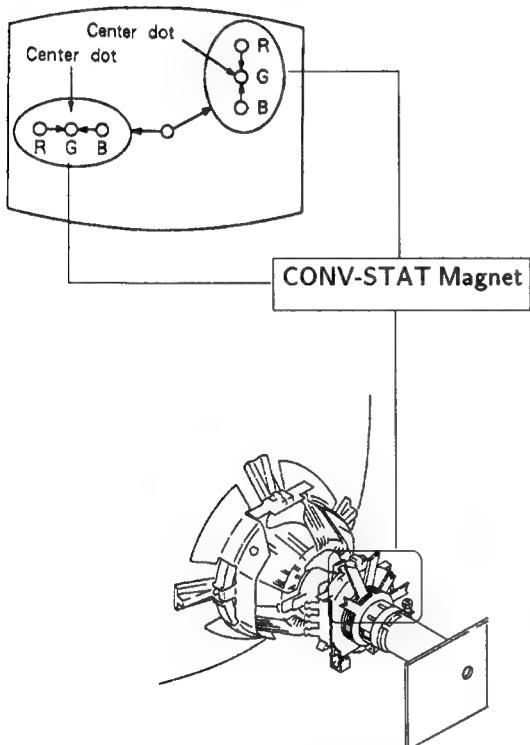
Fig.3-4

### 3-2. CONVERGENCE

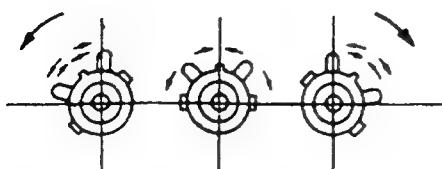
#### Preparation:

- Before starting, perform FOCUS, H.SIZE, and V.SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

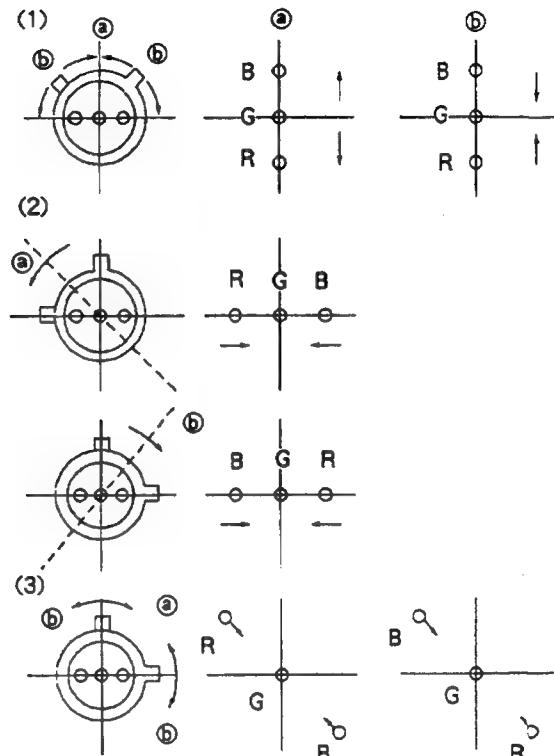
#### (1) Horizontal and Vertical Static Convergence



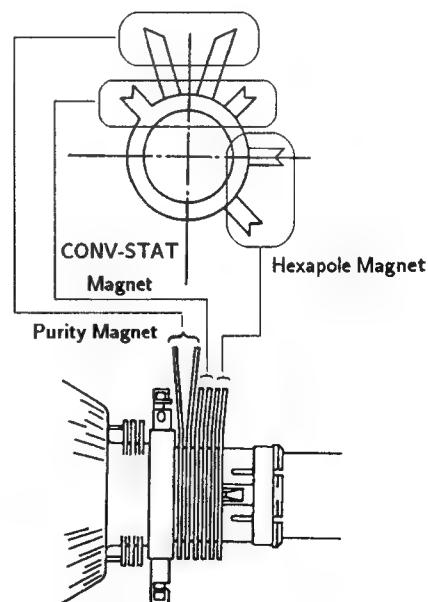
1. Adjust CONV-STAT Magnet to coincide red, green blue dots on the center of screen.
- Tilt the CONV-STAT magnet and adjust static convergence to open or close the CONV-STAT magnet.



2. When the CONV-STAT magnet is moved in the direction of arrow ② and ⑥, Red, Green and Blue dots move as shown below.



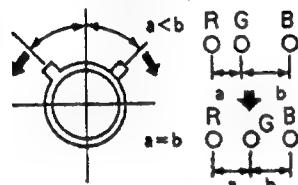
\* IF the red and green dots do not coincide with blue dot, adjustment with BMC (6-poles) magnet.



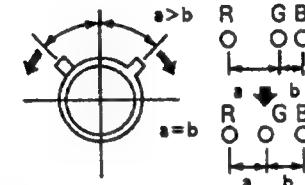
● HMC and VMC correction for BMC (6-pole) magnet.

1. HMC (Horizontal Misconvergence) correction and motion of the Electron Beam with the BMC (6-poles) magnet.

HMC Correction (A)

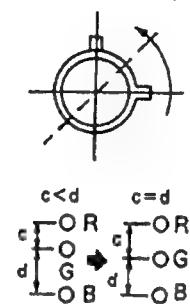


HMC Correction (B)

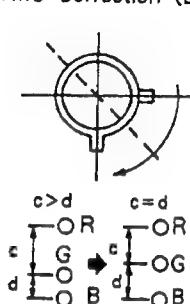


2. VMC (Vertical Misconvergence) correction and motion of the Electron Beam with the BMC (6-poles) magnet.

VMC Correction (A)



VMC Correction (B)



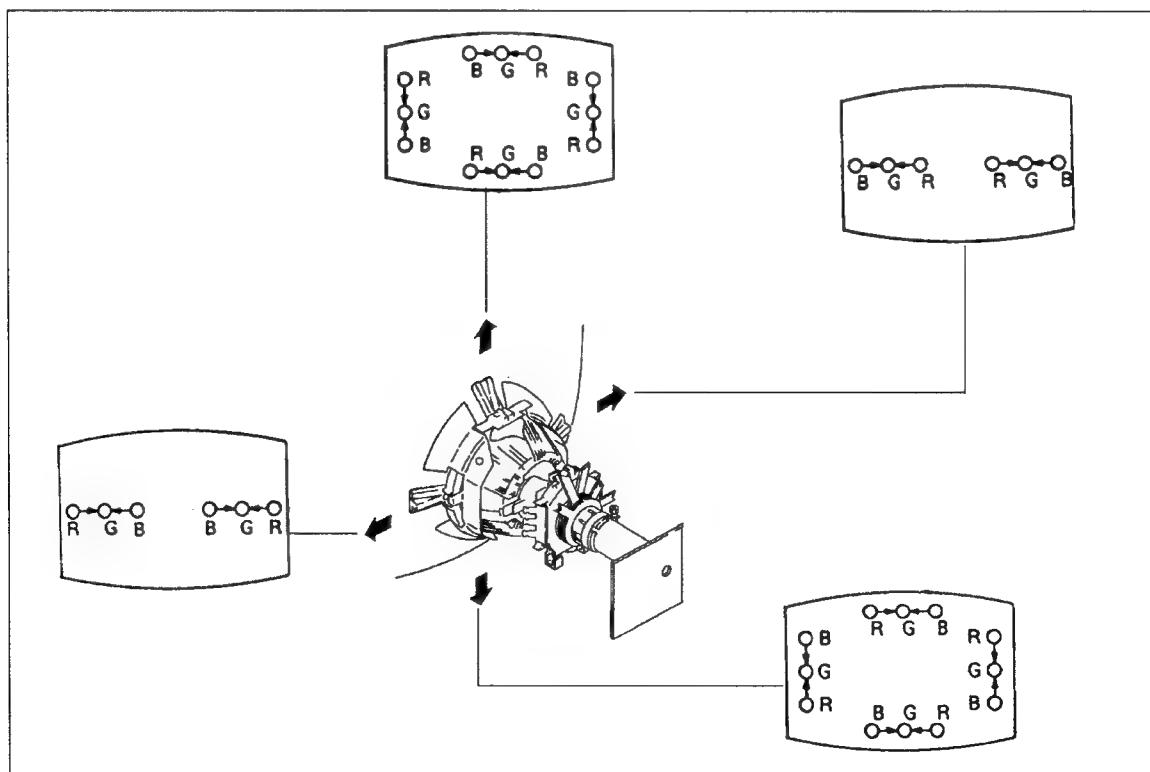
**(2) Dynamic Convergence Adjustment**

**Preparation:**

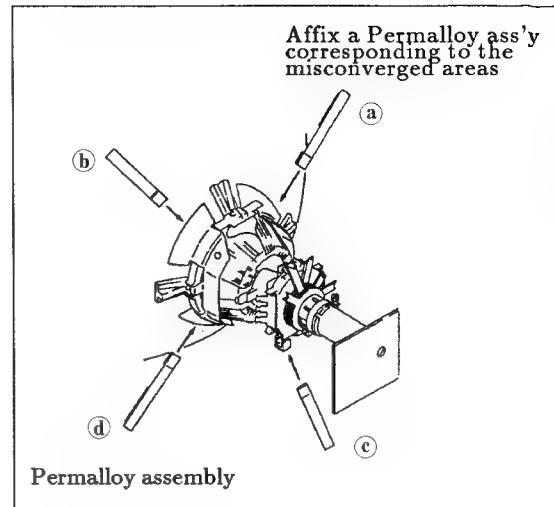
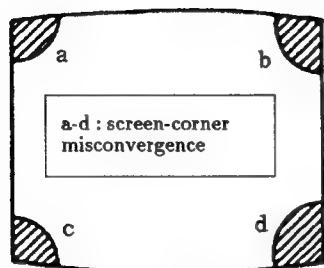
- Before starting perform Horizontal and Vertical static convergence Adjustment.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.

3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



**(3) Screen-corner Convergence**

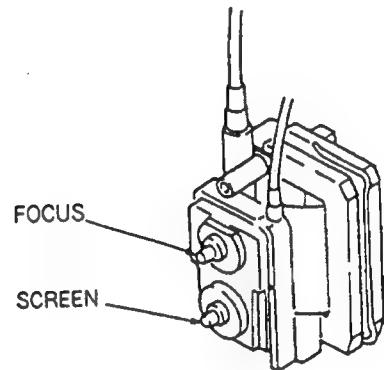


**3-3. FOCUS**

1. Input a monoscope signal.

CONTRAST                                    }  
BRIGHTNESS                                    } normal

2. Adjust FOCUS control for a best picture at the center and both sides of the screen.



### 3-4. SCREEN (G 2) and WHITE BALANCE AUTOMATIC ADJUSTMENT

(Adjustment with remote commander in service mode)

### (1) G 2 adjustment screen

1. Set picture and brightness to STANDARD.
2. Apply external voltage 150 VDC to each of the red, green, and blue cathodes.
3. Adjust the G 2 control knob to a position immediately before the retrace line on the screen disappears.

(2) White balance adjustment (See the table of service items)

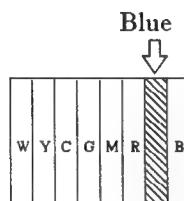
Call item NOs. 13-18 in service mode and adjust each.

1. Receive the color bar place the set into service mode.
2. Set picture to MINIMUM and brightness to STANDARD.
3. Set cut-off (red, green and blue) to MINIMUM and drive (green and blue) to CENTER.

## Cut-off **DRIVE**

No	Item name	Data	No	Item name	Data
16	G BKG	64	13	R BKG	100
17	B BKG		14	G BKG	
18	R BKG		15	B BKG	

4. Adjust brightness compensation so that the blue stripe section of the color pattern shines dimly.



5. Switch the pattern generator signal to ALL WHITE.
6. Adjust white balance with each cut-off.
7. Set picture to MAXIMUM and adjust white balance with the green and blue drive.
8. Repeat the above until white balance between MINIMUM and MAXIMUM of picture is obtained.
9. Switch the pattern generator signal to the color pattern signal.
10. Adjust brightness compensation so that the blue stripe section on the screen shines dimly when picture is set to MINIMUM.

### 3-5. ADJUSTMENT PROCEDURE

(Reading memory contents)

- (1) Confirm that the set has started up in the user mode. (CB) . Press the picture quality adjustment key  $\leftrightarrow$  to leave the set in normal state. Turn off the power the set.
- (2) Turn on the power to the set white holing down the service switch located on the rear panel of set. Confirm that SERVICE is indicated on the screen.
- (3) press the  $\neq$  key. Confirm that indication R on the upper right corner of the screen blinks.
- (4) Press the C key while indication R is blinking. Thus, the contents of NVM are read in.

Note : If IC 306 is a new one (e.g., entirely new one immediately after replacement), do not execute steps (3) and (4) above.

### 3-6. ADJUSTMENT PROCEDURE

(Writing the contents of adjustment into memory)

### When adjustments are completed.

- (1) Press the **W** key Confirm that indication W on the upper right corner of the screen blinks.
- (2) Press the **C** key while indication W is blinking. W stops blinking and the STBY LED lights. Writing to memory is completed when W and LED go out.

NO	Item name	Data
13	R DRIVE	0~127
14	G DRIVE	0~127
15	B DRIVE	0~127
16	G BKG	0~255
17	B BKG	0~255
18	R BKS	0~255

## SECTION 4

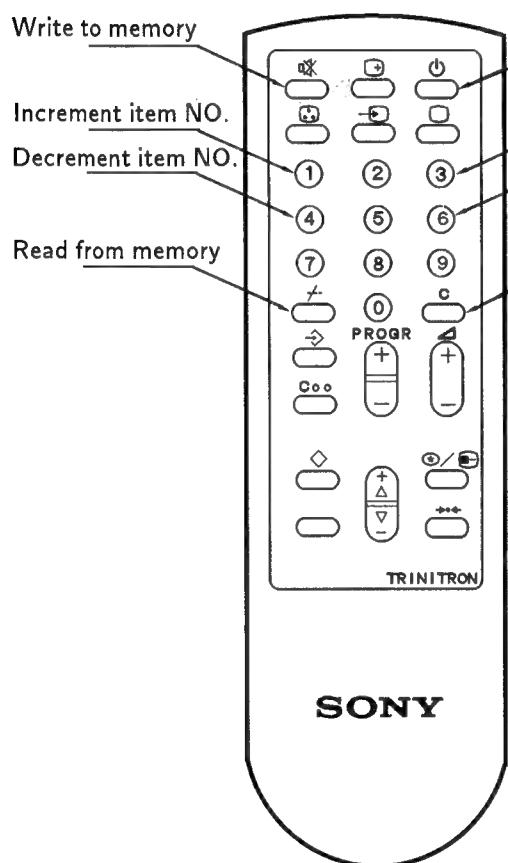
### CIRCUIT ADJUSTMENTS

#### 4-1. COMMANDER OPERATION IN SERVICE MODE

##### [Electrical adjustment in service mode]

Electrical adjustments for service with this type of model can be accomplished by using the remote commander RM-818 included with the set.

Figure : Key assignments in service mode



Terminate service mode

Data up

Data down

Execute read or write

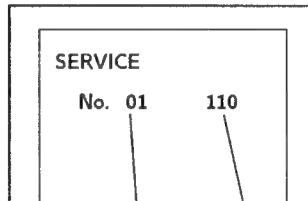
##### (1) Unusable keys

- ① 2, 5, 7, 8, 9, 0 among numeric keys
- ②  $\Rightarrow$  C<sub>00</sub>  $\diamond$ ,  $\oplus$ ,  $\boxplus$  (+/-) These keys are asserted when the key is pressed while holding down the  $\square$  key.

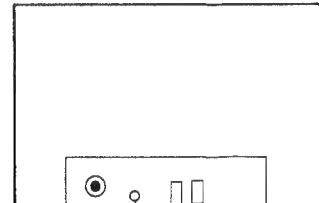
##### (2) Usable keys (incl. those which do not change the meaning)

- ①  $\ominus$
- ②  $\neg$ ,  $\square$
- ③  $\oplus$
- ④ PROGR (+/-)
- ⑤  $\boxminus$ ,  $\boxplus$  (+/-)
- ⑥  $\boxplus\boxplus$
- ⑦  $\triangle$  (+/-)

##### Screen in service mode



Item No. Data



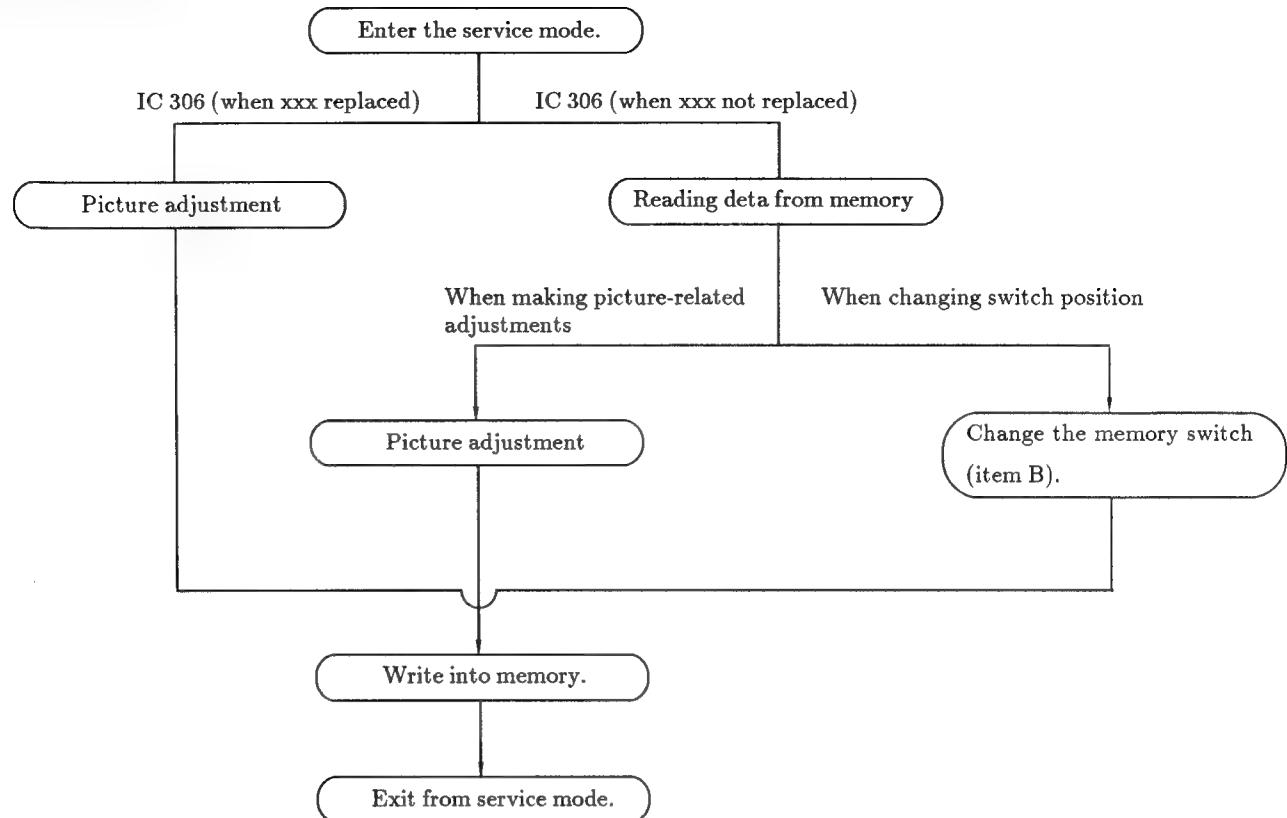
SERVICE MODE

#### <CAUTION>

The service mode is used to prohibit the following.

- (1) Data writing in the non-signal condition.
- (2) Releasing the service mode when the power supply has been turned off with the commander.  
(Be sure to turn off the main power supply of the unit before releasing.)
- (3) Power off during writing (while the LED is lit)
- (4) Switching of the color system during service item N<sub>0</sub>1 (VC O)
- (5) Data writing during the NTSC 443 mode.

**How to adjust in service mode**

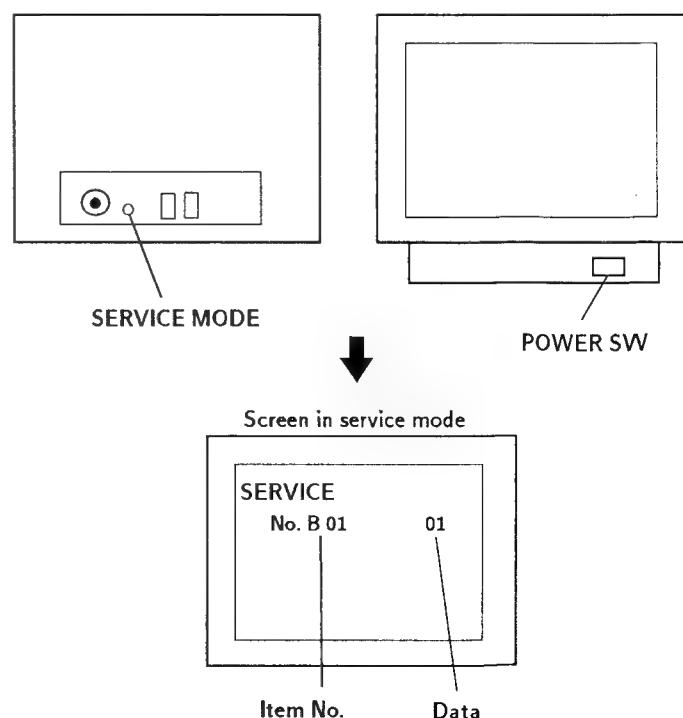


※ Note : Do not turn off the power before writing adjustment data into memory. If the power is off, your adjustment data cannot be stored in memory. Always be sure to write data into memory after making adjustments.

**[Basic adjustment in service mode]**

1. Entering the service mode

- ① Insert a narrow screw-driver into the hole located on the rear cover of the TV set. When this is done, the switch located at the back of the hole is pressed.
- ② While pressing the switch, plug the power cord of the TV into the AC outlet. (Or you may turn on the power of the TV from standby state by using the remote commander.) A message "SERVICE NO. 01 00" will be displayed in green on the screen as the unit enters the service mode.

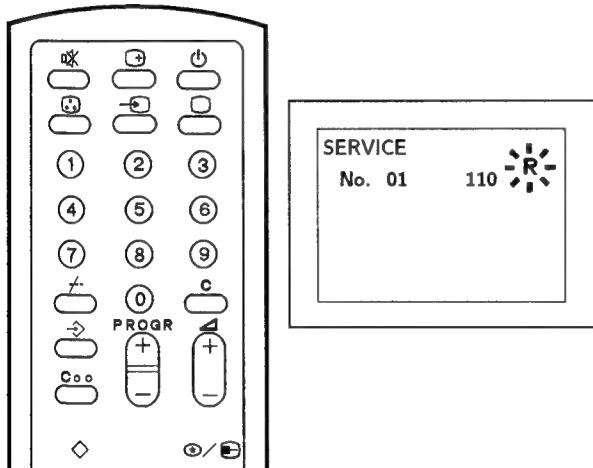


## 2. Reading data from memory

① Read the adjustment values of all items and switch-setting values from memory.

To do this, press the [ $\neq$ ] button, then the [C] button on the remote commander. When [ $\neq$ ] is pressed, the letter R blinks on the upper right corner of the screen. When [C] is pressed during this time, the letter R stops blinking and data read is terminated.

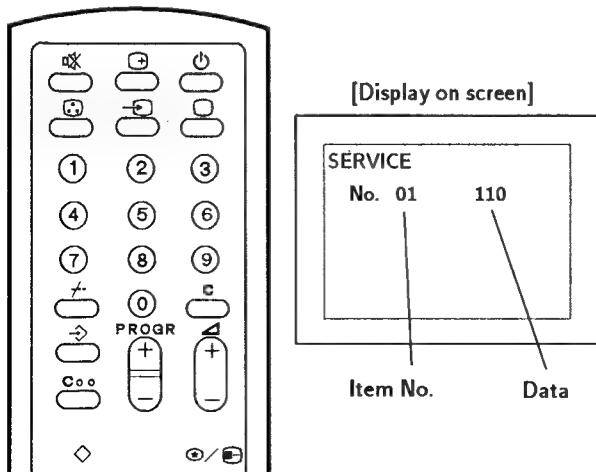
Note : When you replaced IC 306, do not read data from memory before writing new data.



## 3. Adjusting picture quality

① Select one of item Nos. 01-29 that you want to be adjusted by using the remote commander buttons [1] and [4].

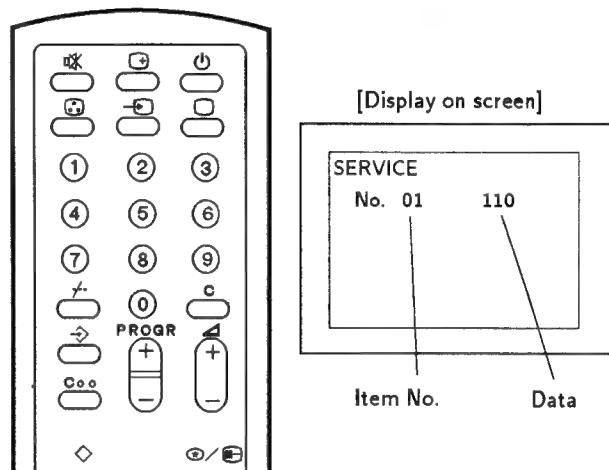
② Adjust picture quality using buttons [3] and [6] until the appropriate picture quality is obtained and the set values are satisfied.



## 4. Changing switch positions

① Select one of item Nos. B 01-B 02 that you want to be changed by using the remote commander buttons [1] and [4].

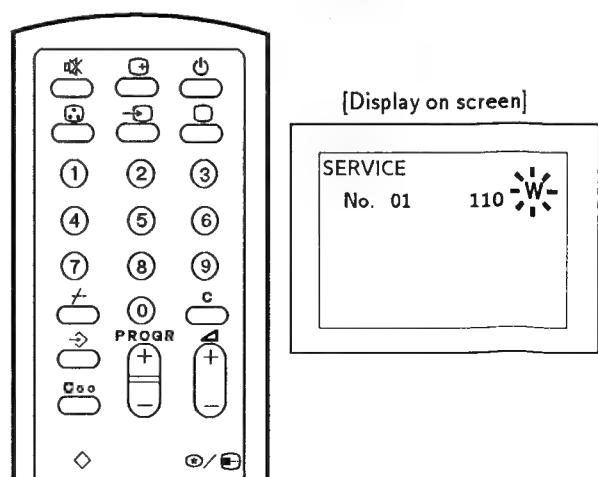
② The internal switches can be changed over using buttons [3] and [6]. Normally, you specify standard values. (See the table of service items.)



## 5. Writing to memory

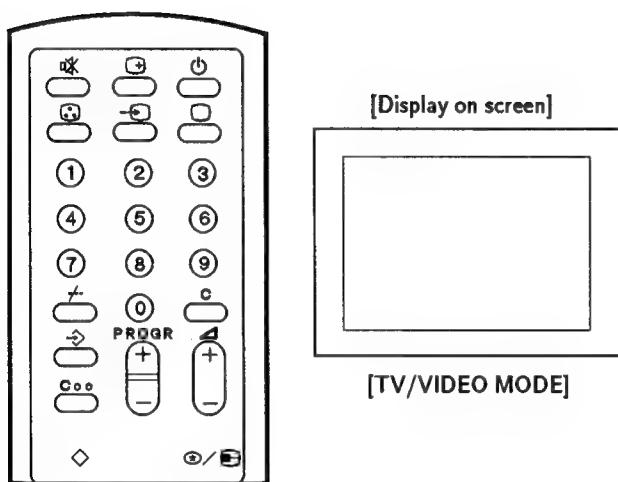
① After adjustment, adjust the switch-setting values, then write the adjustment data to memory using the [ $\boxtimes$ ] button. (Data cannot be written by only using the [ $\boxtimes$ ] button.)

Press the [C] button while the character ":" is blinking on the screen (within 3 seconds). It takes approximately 3 seconds from when the [C] button is pressed to when writing to memory is completed. Writing to memory is completed when the character ":" stops blinking and goes out.



6. Terminating service mode

① Unplug the power cord of the TV and plug it in again. When this is done, the indication of SERVICE MODE goes out and the unit enters normal TV mode.



## 4-2. A BORAD ADJUSTMENTS

### RF AGC Adjustment

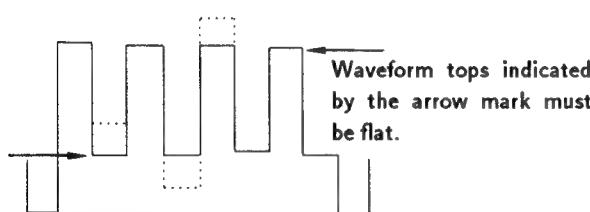
1. Receive the color bar signal. (RF signal)
2. Picture : 80%
3. Brightness : standard
4. Adjust the IF pack AGC knob until snow noise and cross modulation are eliminated.
5. Confirm the above in each channel.

### VCO Adjustment

1. Receive the color bar signal and place the set into service mode.
2. Set a value with item 1 so that the screen beats.

### SUB COLOR and SUB HUE Adjustments

1. Receive the color bar signal and place the set into service mode.
2. Connect an oscilloscope to the TP (blue output) of the circuit board C, then press the STANDARD button using the remote commander.
3. Next, adjust the oscilloscope waveform with item 19 and 20 until the waveform shown below is obtained. Then, set sub-color to a value three steps up.



NO	Item name
19	Sub hue
20	Sub color

#### Note :

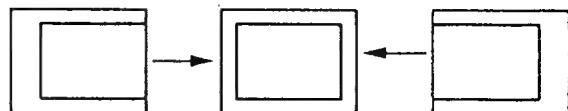
When sub-contrast, sub-hue or sub-color is adjusted, picture qualities in video 1 and video 2 are no longer STANDARD (independently stored in memory). Select video 1 and video 2 using the remote commander (TV/VIDEO) button, then press the (STANDARD) button for each.

Picture qualities in video 1 and video 2 can be made to STANDARD even when you set "channel selection , standad" with buttons (8) and (12) after writing data to memory.

### ADJUSTING DEFLECTION

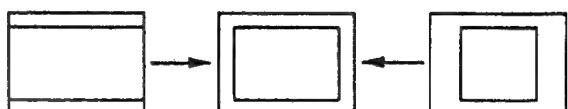
Horizontal position (item NO. 9) 0~31

H. CENT



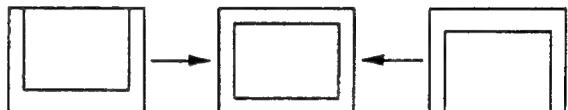
Horizontal amplitude (item NO. 10) 0~63

H. SIZE



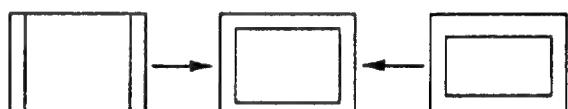
Vertical position (item NO. 2) 0~63

V. CENT



Vertical amplitude (item NOs. 3, 4) 0~255

V. SIZE



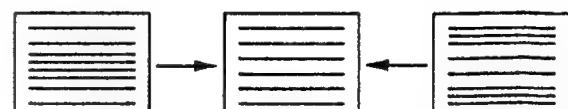
Vertical linearity (item NOs. 5, 6) L : 0~63, H : 0~63

V. ANGLE



Vertical character-S correction (item NOs. 7, 8)

L : 0~31, H : 0~255



• ITEM LIST

No.	Item name	Register name			Data range			Adjustment data			Remarks	Signal
		IC	LABEL	Bit length	PAL	SECAM	NTSC	ADJ	ADJ	ADJ		
1	VCO	PVPU	VCOA	8	(-128)0~(+127)255	ADJ	ADJ	ADJ	ADJ	ADJ	Adjusted with VCO free-run	CB
2	V center	Microprocessor	PWM output	8	0~63	ADJ	↔	ADJ	ADJ	ADJ	Dummy-IM bus adjustment	SP CB
3, 4	Note 1) V size H&L	DPU	H 0 L, H 0 H	8+8	L(0~15), H(0~255)	ADJ	↔	ADJ	ADJ	ADJ	V amplitude	"
5, 6	Note 1) V linearity H&L	DPU	S 1 L, S 1 H	8+6	L(0~63), H(0~63)	ADJ	↔	ADJ	ADJ	ADJ	V symmetry	"
7, 8	Note 1) V character-S correction H&L	DPU	S 0 L, S 0 H	8+8	L(0~31), H(0~255)	ADJ	↔	ADJ	ADJ	ADJ	S correction	"
9	H center	DPU	SP	5	0~31	ADJ	↔	ADJ	ADJ	ADJ	ADJ	"
10	H size	Microprocessor	PWM output	8	0~63	ADJ	↔	ADJ	ADJ	ADJ	Dummy-IM bus adjustment	"
11	H blanking	DPU	BP	6	0~63	↔	↔	↔	↔	↔	↔	"
12	ACC level	PVPU	BA	6	0~63	↔	↔	↔	↔	↔	↔	CB
13	R drive	PVPU	WR	7	0~127	ADJ	↔	↔	↔	↔	AMB to be turned off.	W/CB
14	G drive	PVPU	WG	7	0~127	ADJ	↔	↔	↔	↔	"	"
15	B drive	PVPU	WB	7	0~127	ADJ	↔	↔	↔	↔	"	"
16	G cut-off	PVPU	CG	8	0~255	ADJ	↔	↔	↔	↔	"	"
17	B cut-off	PVPU	CB	8	0~255	ADJ	↔	↔	↔	↔	"	"
18	R cut-off	PVPU	CR	8	0~255	ADJ	↔	↔	↔	↔	"	"
19	Sub-hue 1	DTI	FSR 1, 2	8, 8	↔	↔	↔	ADJ	ADJ	ADJ	Shared with hue when DTI is on.	CB
20	Sub-color 1	DTI	FSR 1, 2	8, 8	↔	↔	↔	ADJ	ADJ	ADJ	Shared with color when DTI is on.	"
21	Sub-bright	PVPU	BR	8	0~255	↔	↔	↔	↔	↔	Shared with bright (user controllable).	W
22	External RGB contrast	PVPU	RGBC	6	0~63	↔	↔	↔	↔	↔	Shared with bright (user controllable).	CB
23	Y/C delay	PVPU	LD	4	(-4)0~(+4)8	↔	↔	↔	↔	↔	SP CB	SP CB
24	External RGB delay Y	DTI	LDA	9	0~511	↔	↔	↔	↔	↔	SP CB	SP CB
25	External RGB delay C	DTI	CDA	9	0~511	↔	↔	↔	↔	↔	SP CB	SP CB
26	Sub-hue 2	SPU	SR, SB	6, 6	0~63	↔	↔	↔	↔	↔	CB	CB
27	Sub-color 2	SPU	SR, SB	6, 6	0~63	↔	↔	↔	↔	↔	CB	"
28	DC offset R	SPU	OR	6	0~63	↔	↔	↔	↔	↔	CB	"
29	DC offset B	SPU	OB	6	0~63	↔	↔	↔	↔	↔	CB	"
B 01	Auto White Balance										0 : off (without IK pulse) 1 : off (IK pulse) 2 : Auto cut-off 3 : on	
B 02	DTI										0 : off 1 : on	

① ADJ : Must be adjusted for each set.

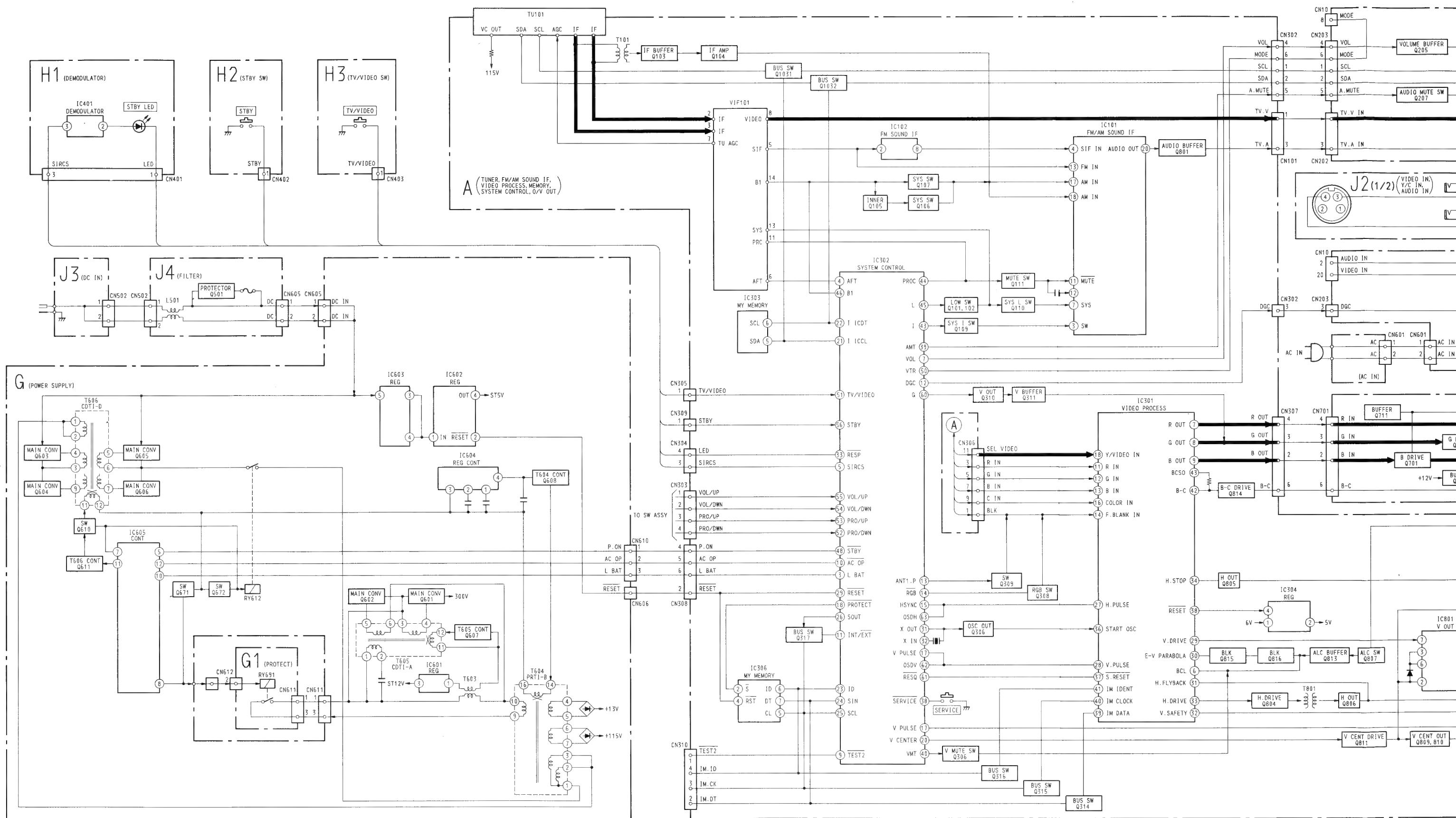
② ↔ : Must be treated as reference (fixed) value based on deviation between sets.

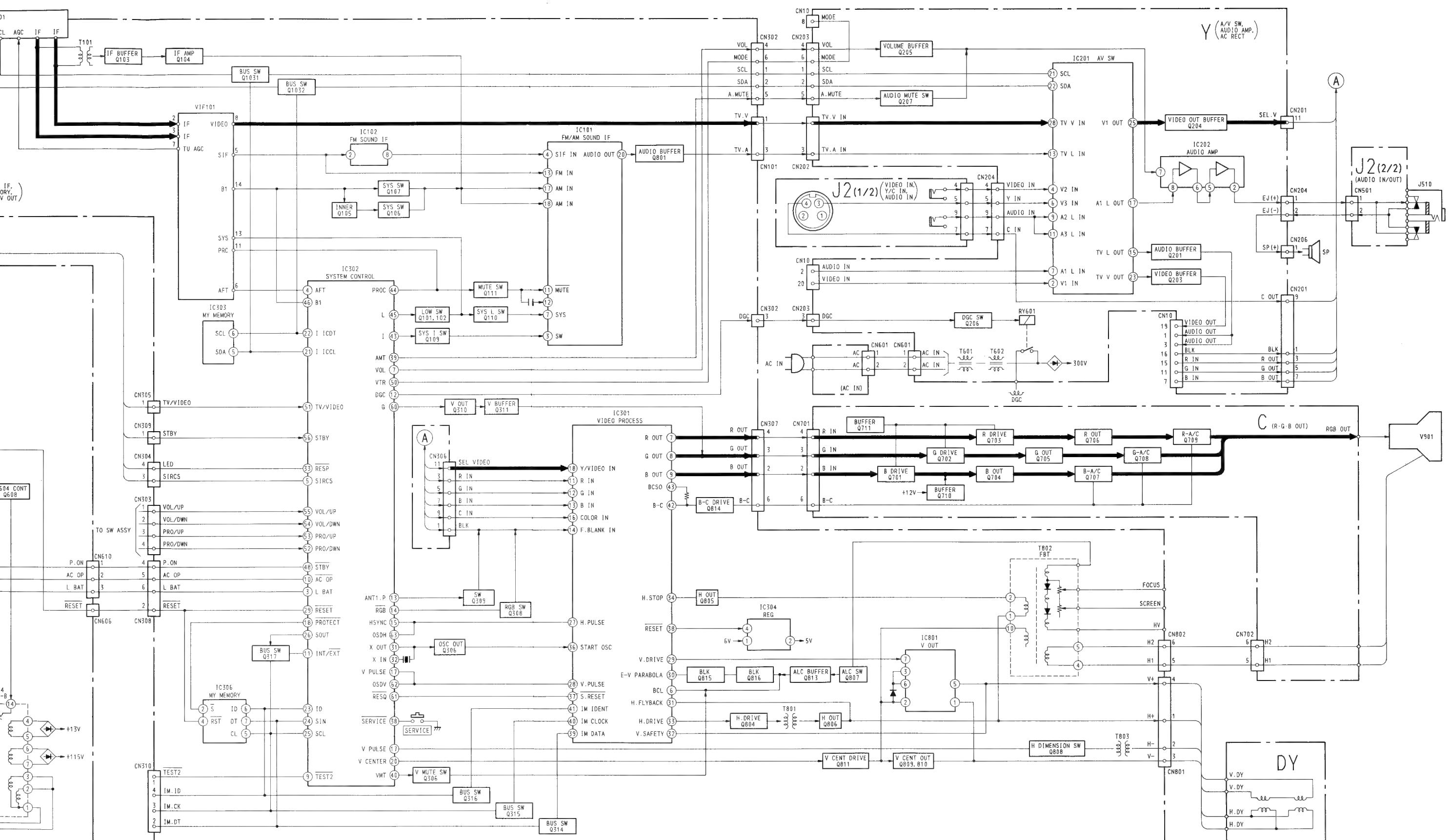
③ AWB : RGB cut-off and drive are automatically adjusted. [Mode 0] without IK pulse, countermeasures against claims ; [Mode 1] only AWB function unavailable, adjustment mode ; [Mode 2] Auto cut-off function only ; [Mode 3] Auto white balance function

Note 1 : Two adjustment modes are available, L-byte(fine adjustment) and H-byte(rough adjustment).

## SECTION 5 DIAGRAMS

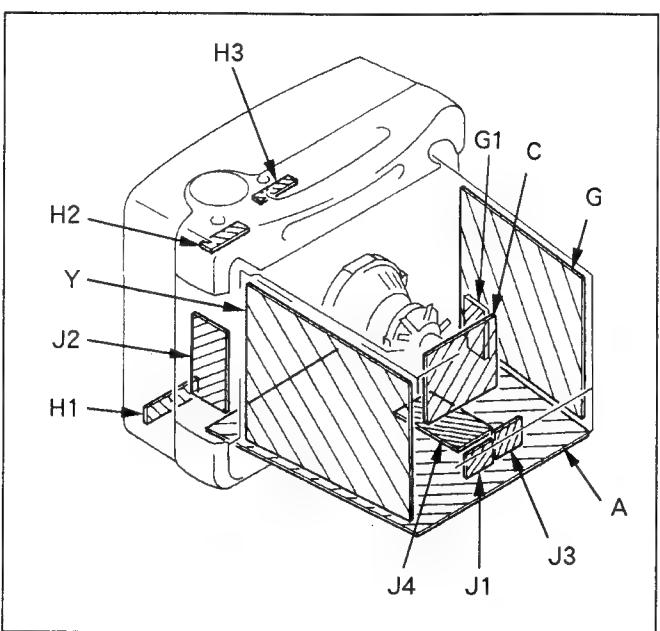
## 5-1. BLOCK DIAGRAM





A (TUNER FM/AM SOUND I  
VIDEO PROCESS MEMORY  
SYSTEM CONTROL H/V C

## 5-2. CIRCUIT BOARDS LOCATION



## Reference information

RESISTOR	: RN METAL FILM
	: RC SOLID
	: FPRD NONFLAMMABLE CARBON
	: FUSE NONFLAMMABLE FUSIBLE
	: RW NONFLAMMABLE WIREWOUND
	: RS NONFLAMMABLE METAL OXIDE
	: RB NONFLAMMABLE CEMENT
COIL	: LF-8L MICRO INDUCTOR
CAPACITOR	: TA TANTALUM
	: PS STYROL
	: PP POLYPROPYLENE
	: PT MYLAR
	: MPS METALIZED POLYESTER
	: MPP METALIZED POLYPROPYLENE
	: ALB BIPOLAR
	: ALT HIGH TEMPERATURE
	: ALR HIGH RIPPLE

5-3. SCHEMATIC DIAGRAMS AND PRINTED  
WIRING BOARDS — CONDUCTOR SIDE —

## Note :

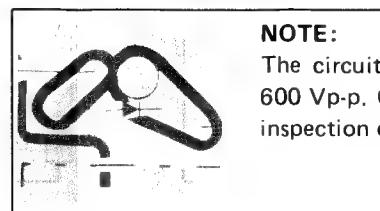
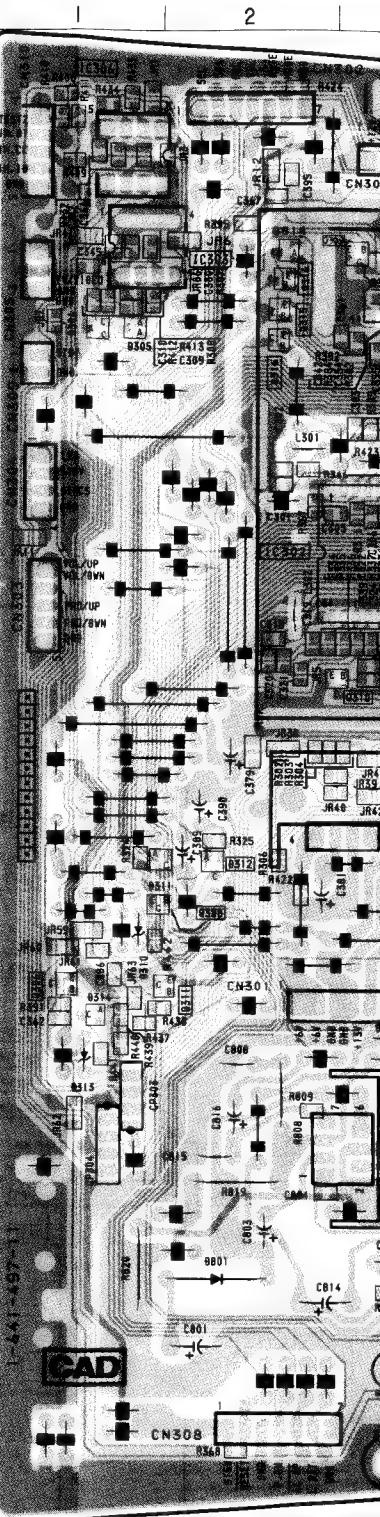
- All capacitors are in  $\mu$ F unless otherwise noted.  
 $\mu$ F :  $\mu$ F 50 WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm  
Rating electrical power 1/10W

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10 MQ digital multimeter.
- Readings are taken with a PAL color-bar signal input.
- : adjustment for repair.
- Voltage variations may be noted due to normal production tolerance.
- : B+ bus.
- : B- bus.
- : signal path.

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

I C	DIODE
IC101	D-7
IC102	D-7
IC301	B-4
IC302	C-4
IC303	B-1
IC304	E-3
IC305	E-4
IC306	A-1
IC801	G-3
TRANSISTOR	
Q101	C-7
Q102	C-8
Q103	D-6
Q104	E-6
Q105	E-8
Q106	E-8
Q107	E-8
Q108	E-7
Q109	D-7
Q110	D-8
Q111	D-8
Q306	F-1
Q307	C-5
Q308	F-2
Q309	B-3
Q310	D-3
Q311	F-2
Q314	B-2
Q315	B-2
Q316	B-2
Q317	C-5
Q804	H-3
Q805	H-6
Q806	F-6
Q807	H-6
Q808	F-4
Q809	H-5
Q810	H-5
Q811	H-6
Q813	G-5
Q814	A-4
Q815	B-4
Q816	B-3
Q1031	C-7
Q1032	C-6
TEST POINT	
TP103	B-9



NOTE:  
The circuit  
600 Vp-p. (1  
inspection

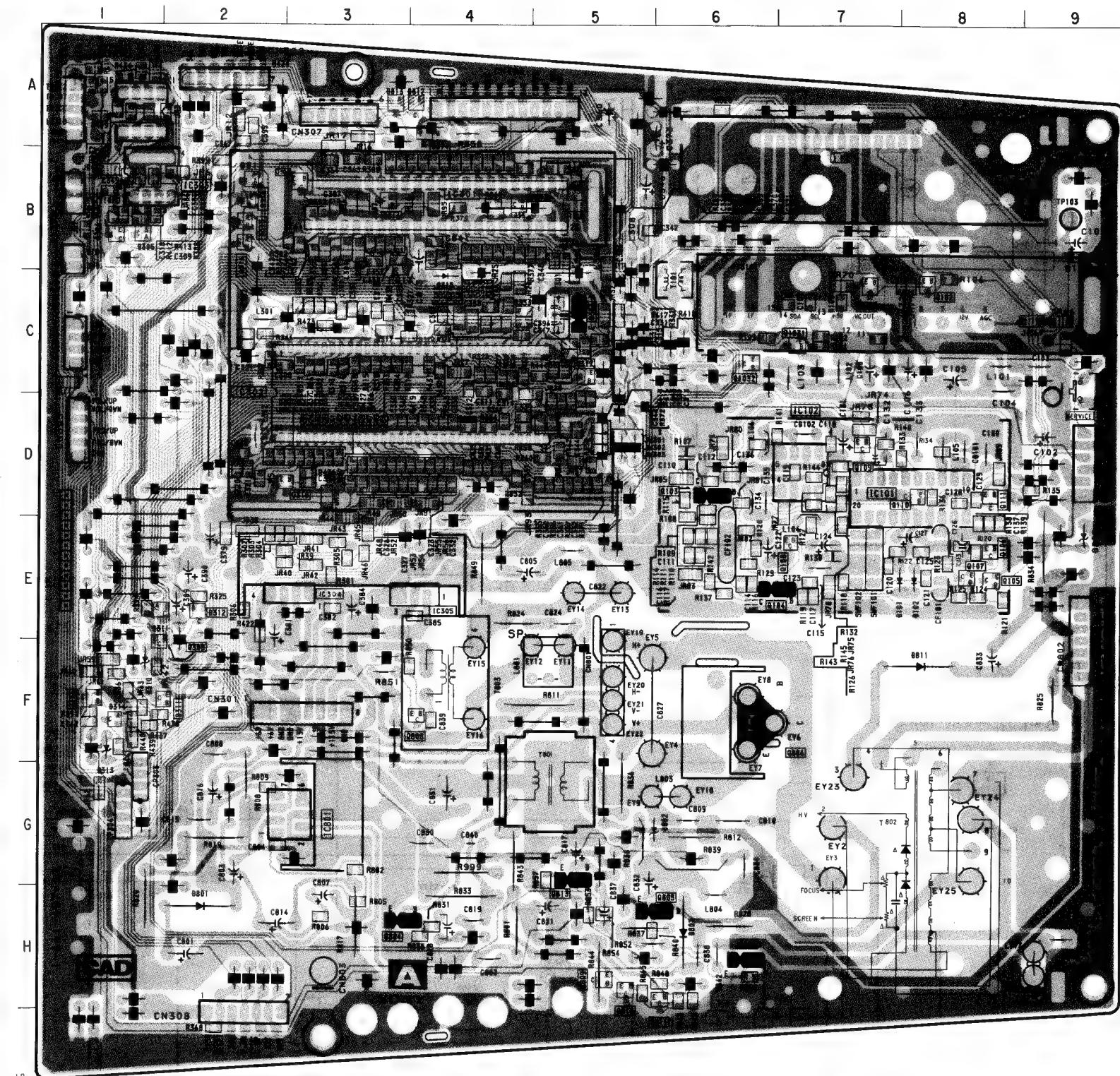
**A** (TUNER FM/AM SOUND IF  
VIDEO PROCESS MEMORY  
SYSTEM CONTROL H/V OUT)

Note :

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

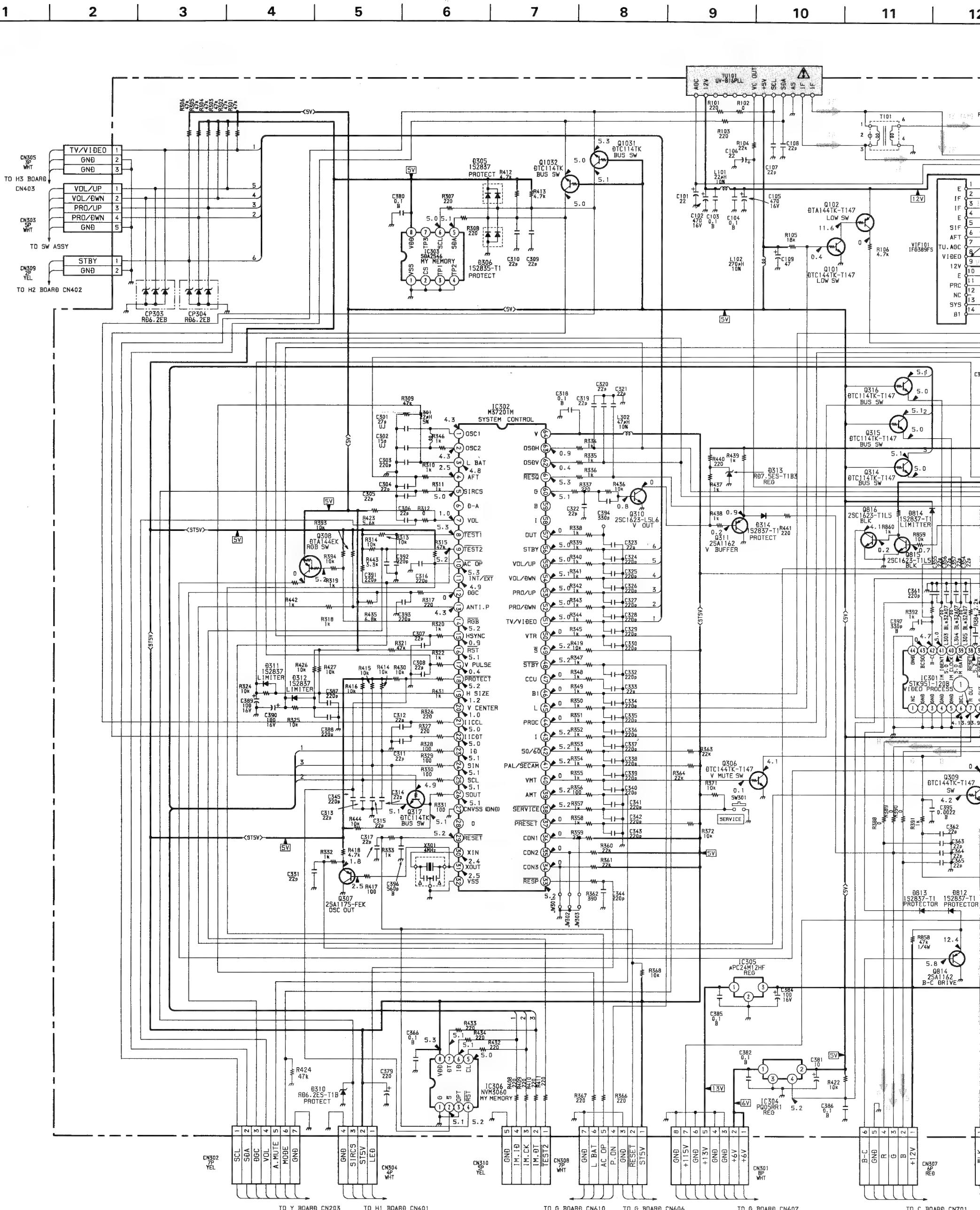
— A board —

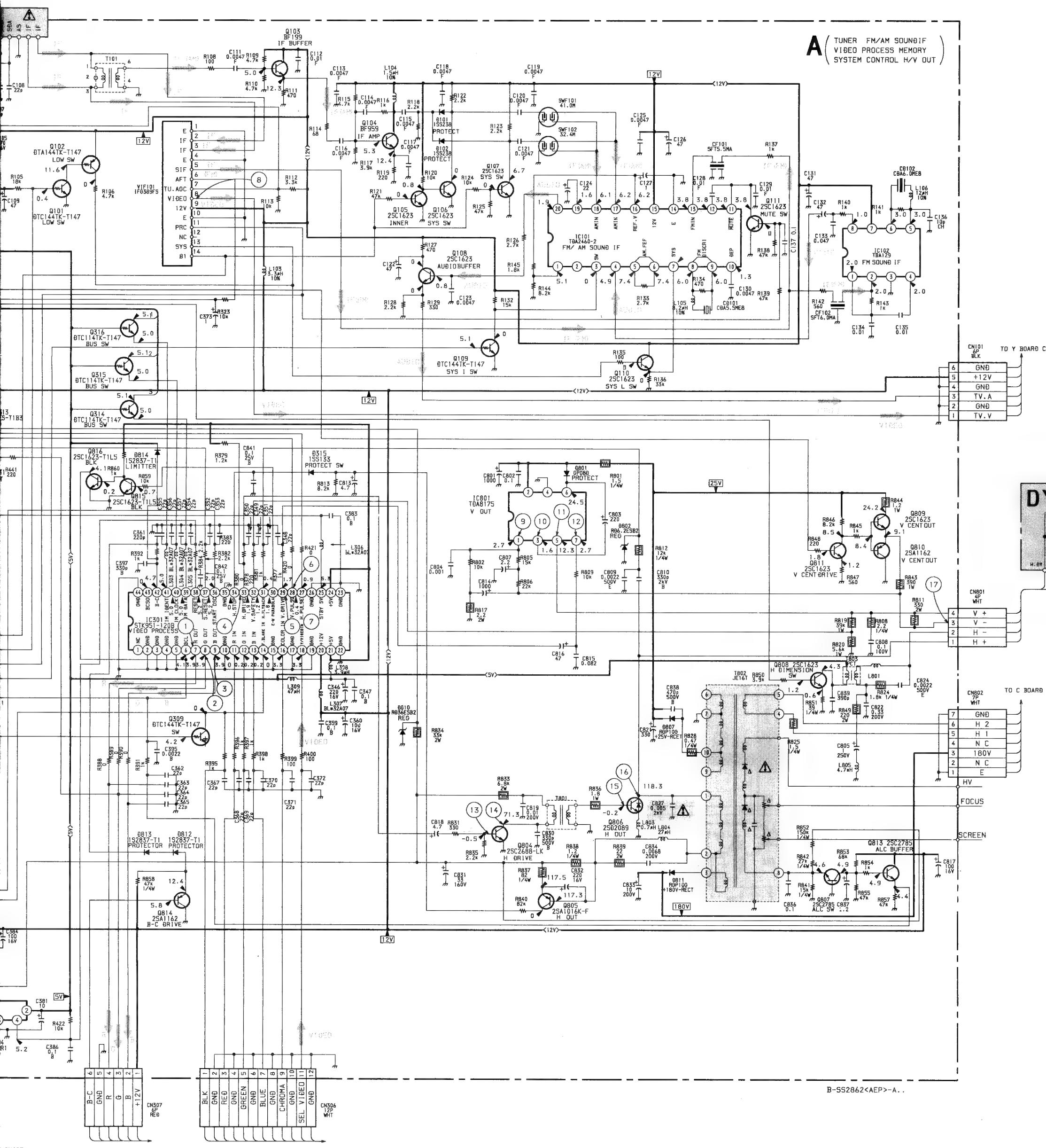
I C	DIODE
IC101	D-7
IC102	D-7
IC301	B-4
IC302	C-4
IC303	B-1
IC304	E-3
IC305	E-4
IC306	A-1
IC801	G-3
TRANSISTOR	
Q101	C-7
Q102	C-8
Q103	D-6
Q104	E-6
Q105	E-8
Q106	E-8
Q107	E-8
Q108	E-7
Q109	D-7
Q110	D-8
Q111	D-8
Q306	F-1
Q307	C-5
Q308	F-2
Q309	B-3
Q310	D-3
Q311	F-2
Q314	B-2
Q315	B-2
Q316	B-2
Q317	C-5
Q804	H-3
Q805	H-6
Q806	F-6
Q807	H-6
Q808	F-4
Q809	H-5
Q810	H-5
Q811	H-6
Q813	G-5
Q814	A-4
Q815	B-4
Q816	B-3
Q1031	C-7
Q1032	C-6
TEST POINT	
TP103 B-9	

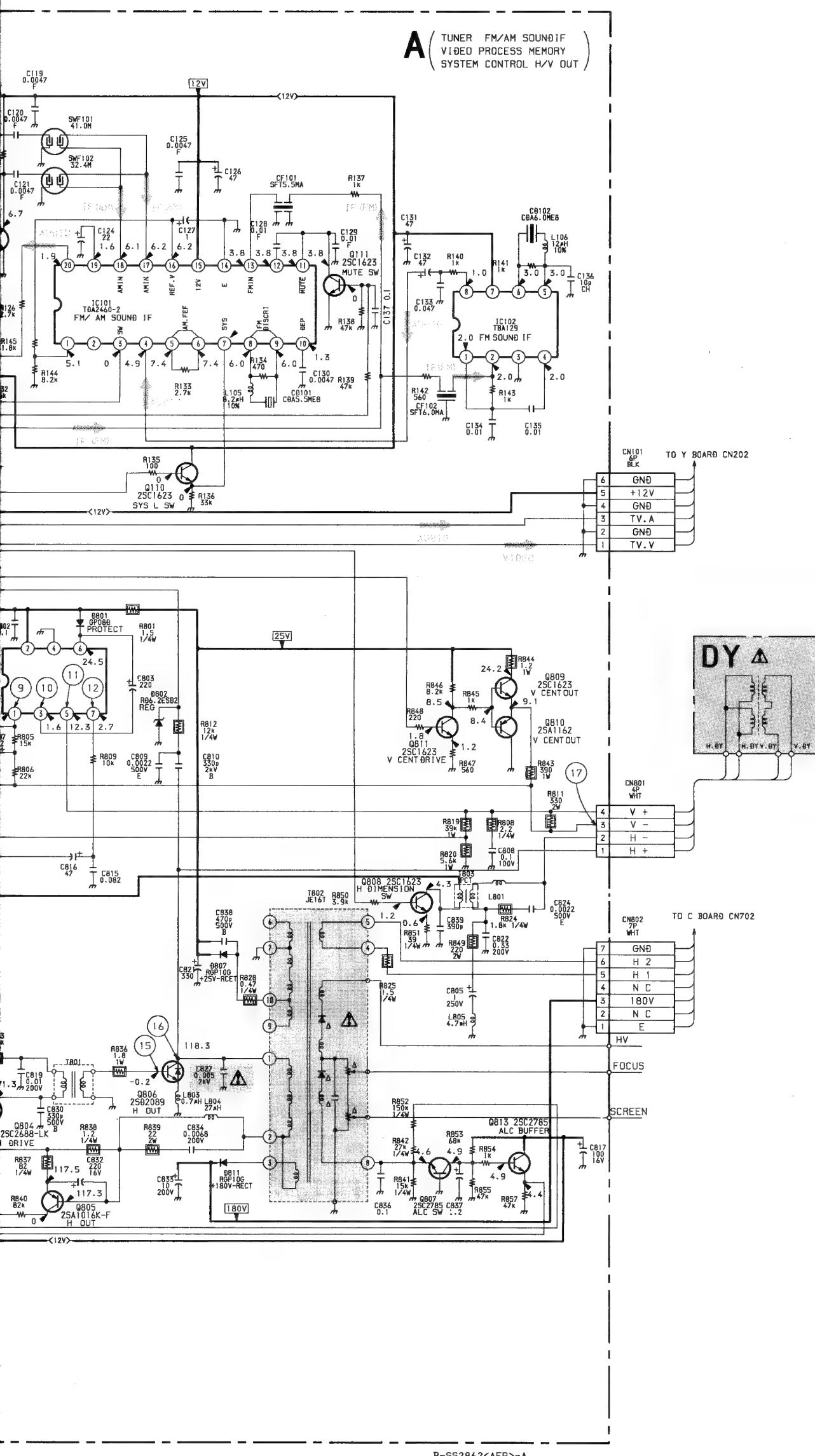


## NOTE:

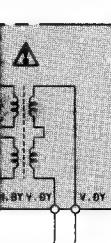
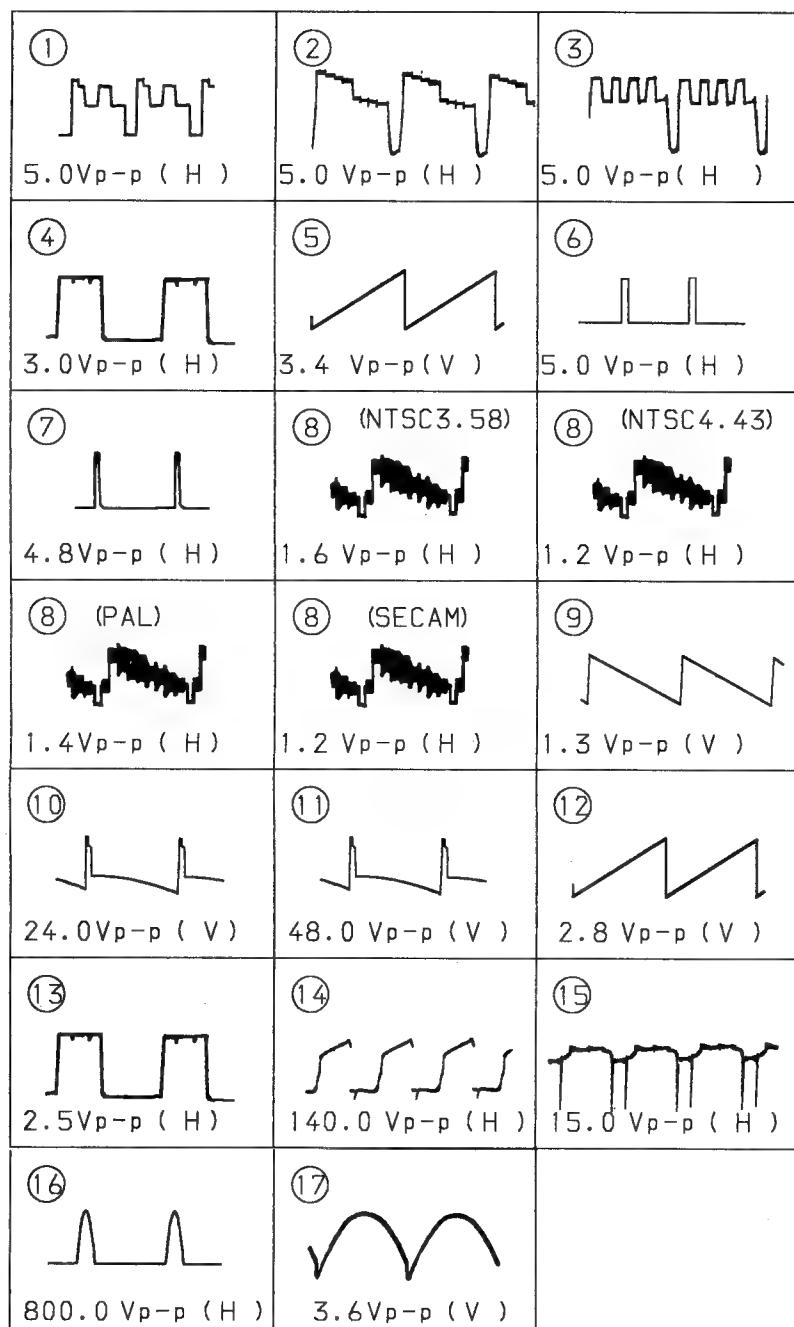
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.



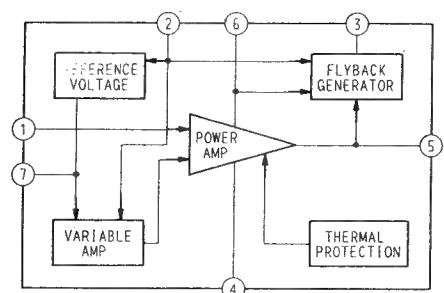
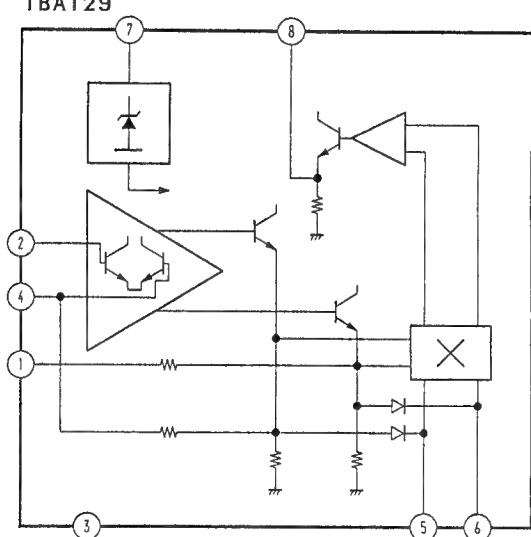




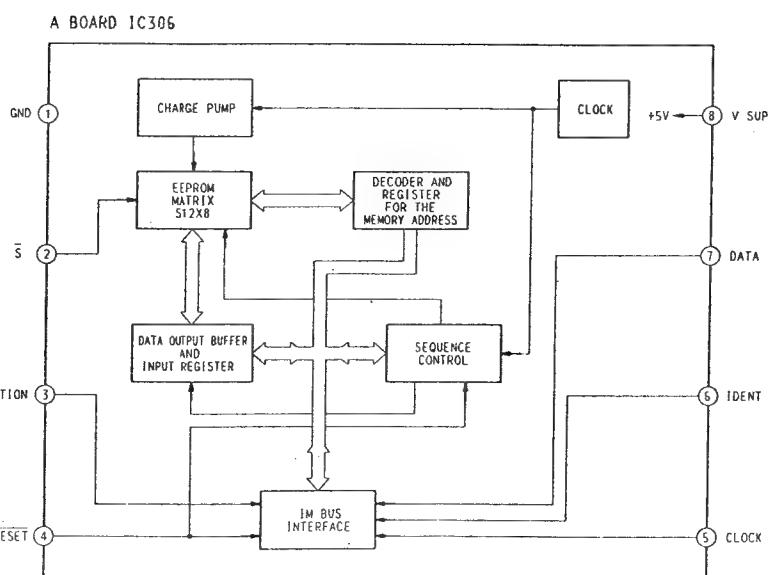
## WAVEFORMS A BOARD



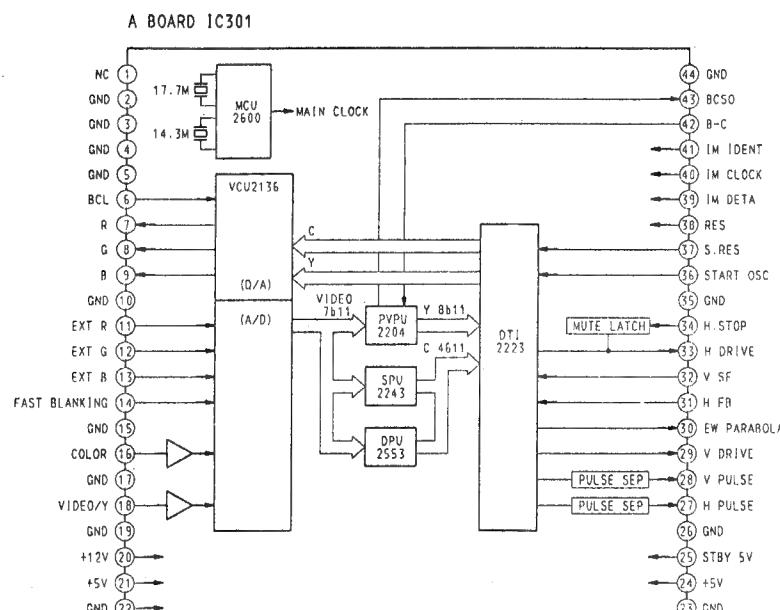
## A BOARD IC801 TDA8175

A BOARD IC102 TBA129  
TBA129

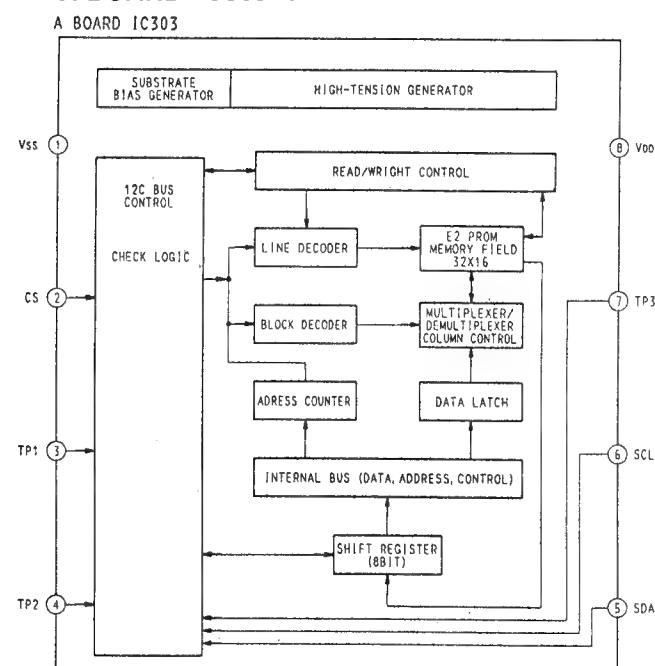
## A BOARD IC306 NVM3060



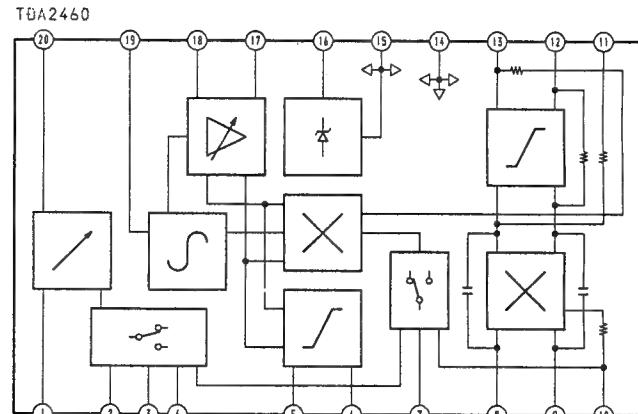
## A BOARD IC301 STK951-120B

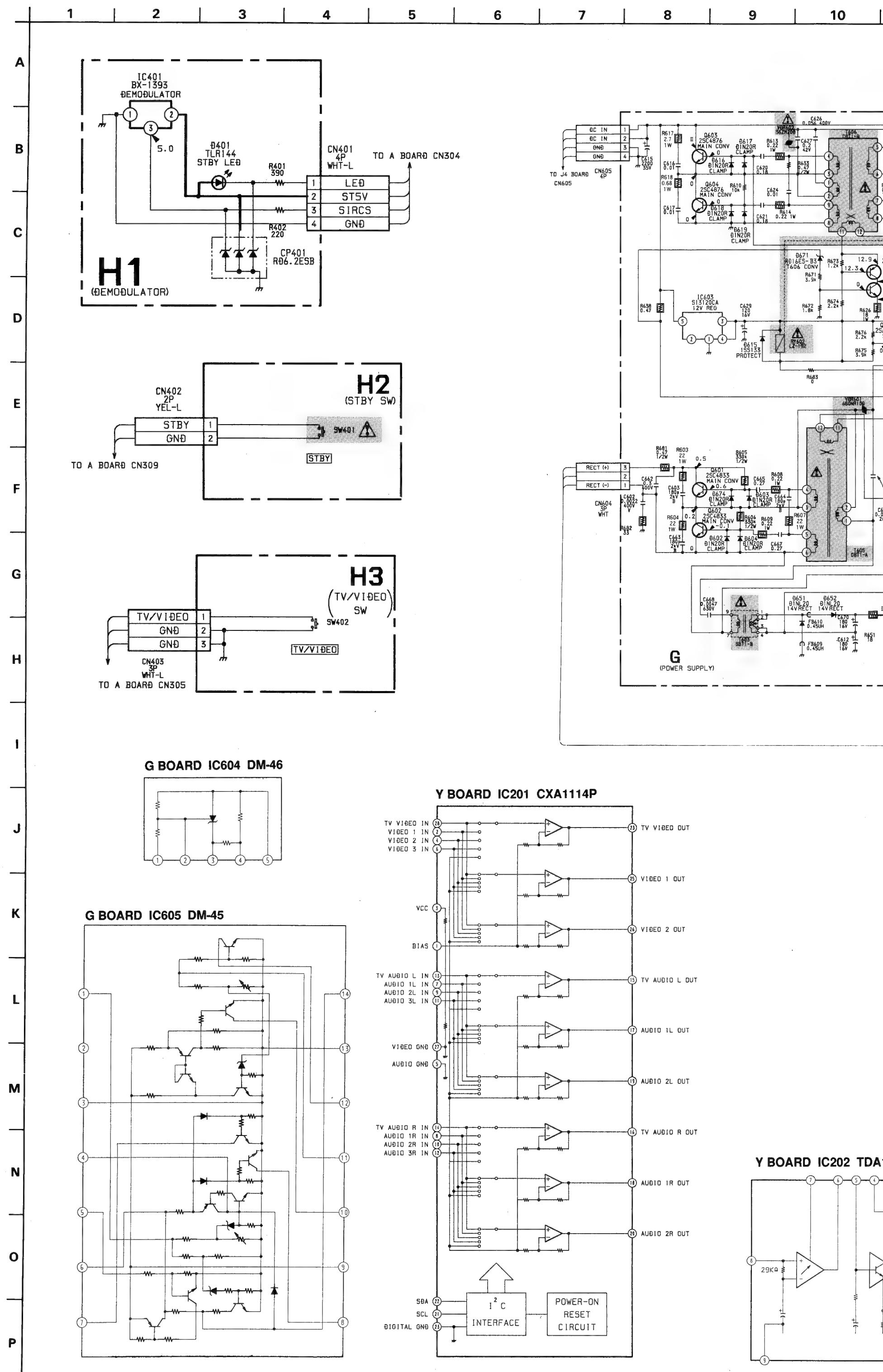


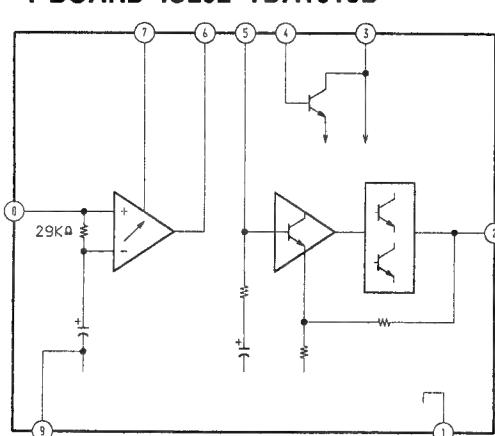
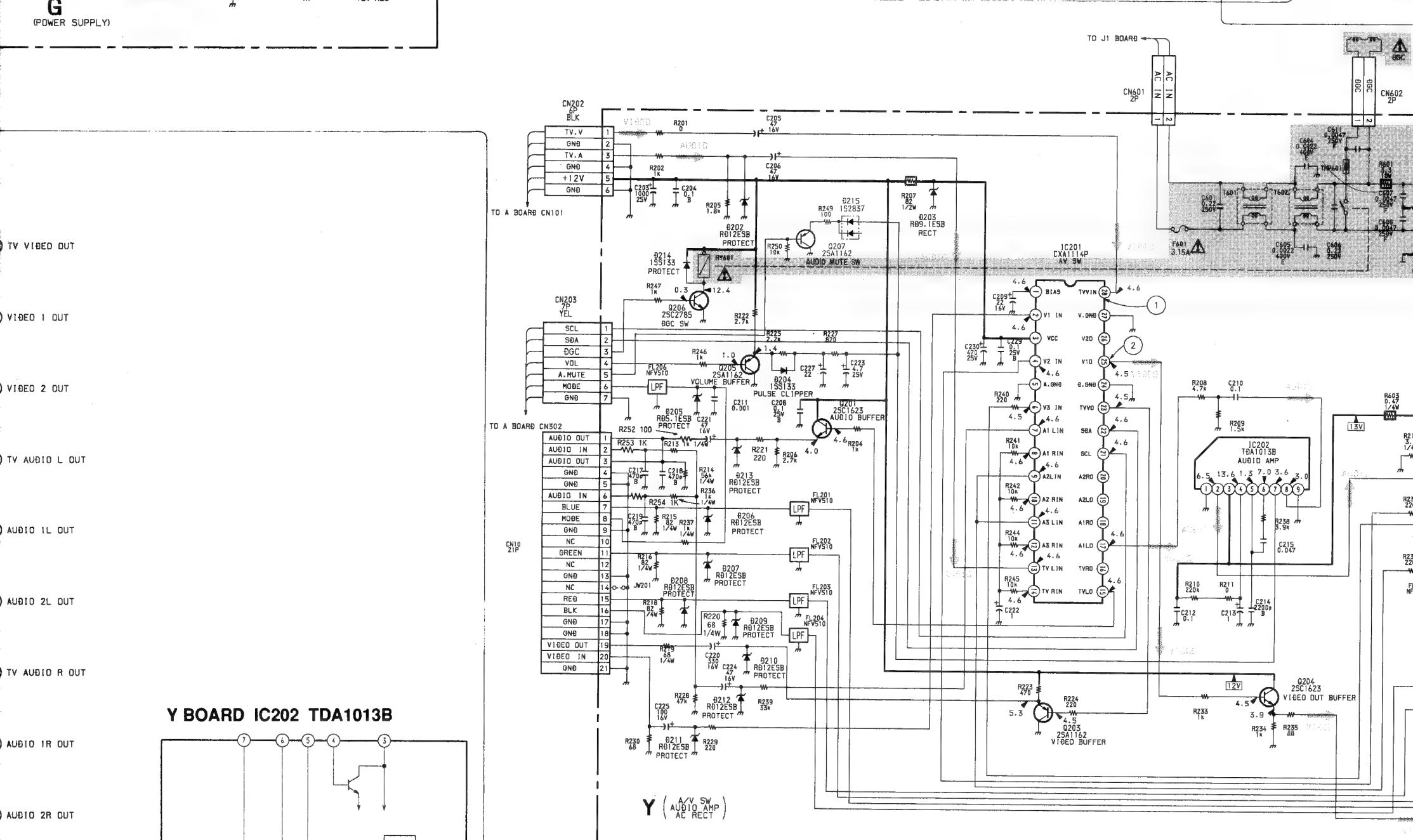
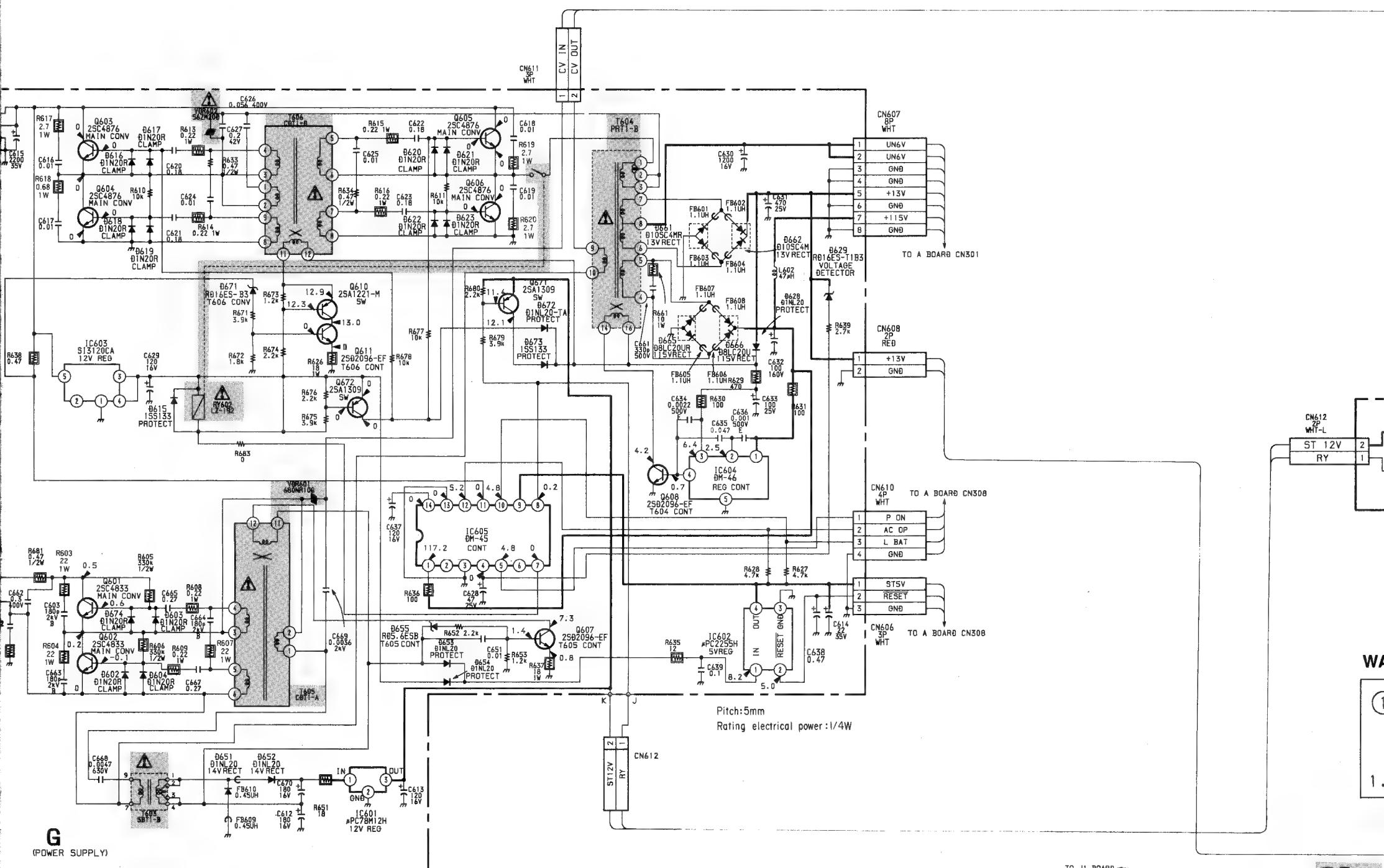
## A BOARD IC303 SDA2546

A BOARD IC101 TDA2460-2  
TDA2460

## A BOARD IC101 TDA2460-2







15

16

17

18

19

20

21

22

23

G1

(PROTECT)

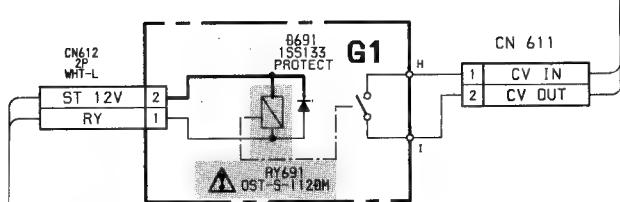
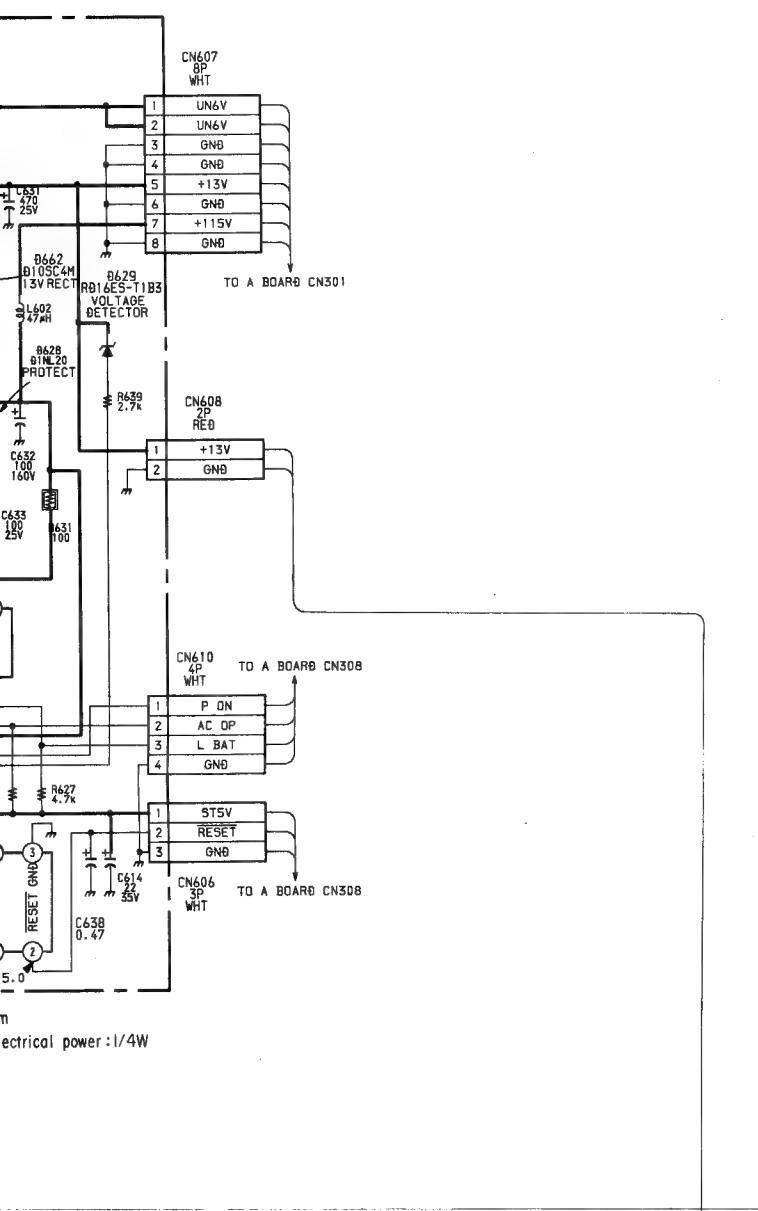
G

(POWER)

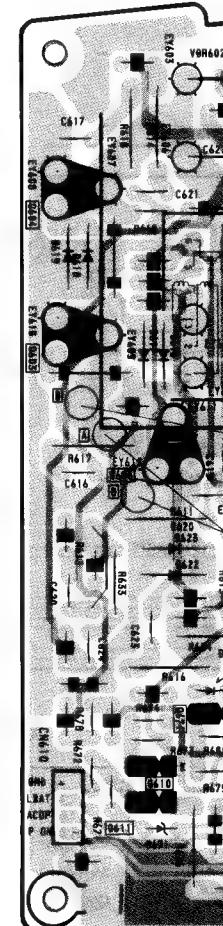
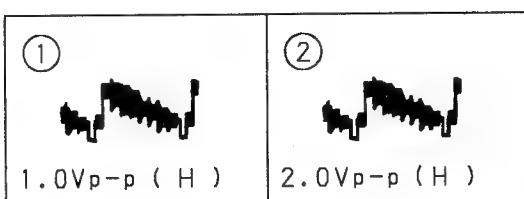
H3

(TV/VIDEO SW)

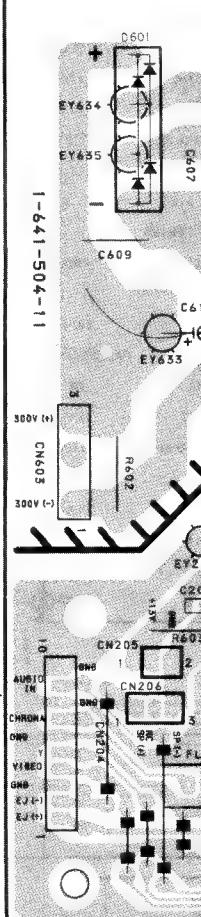
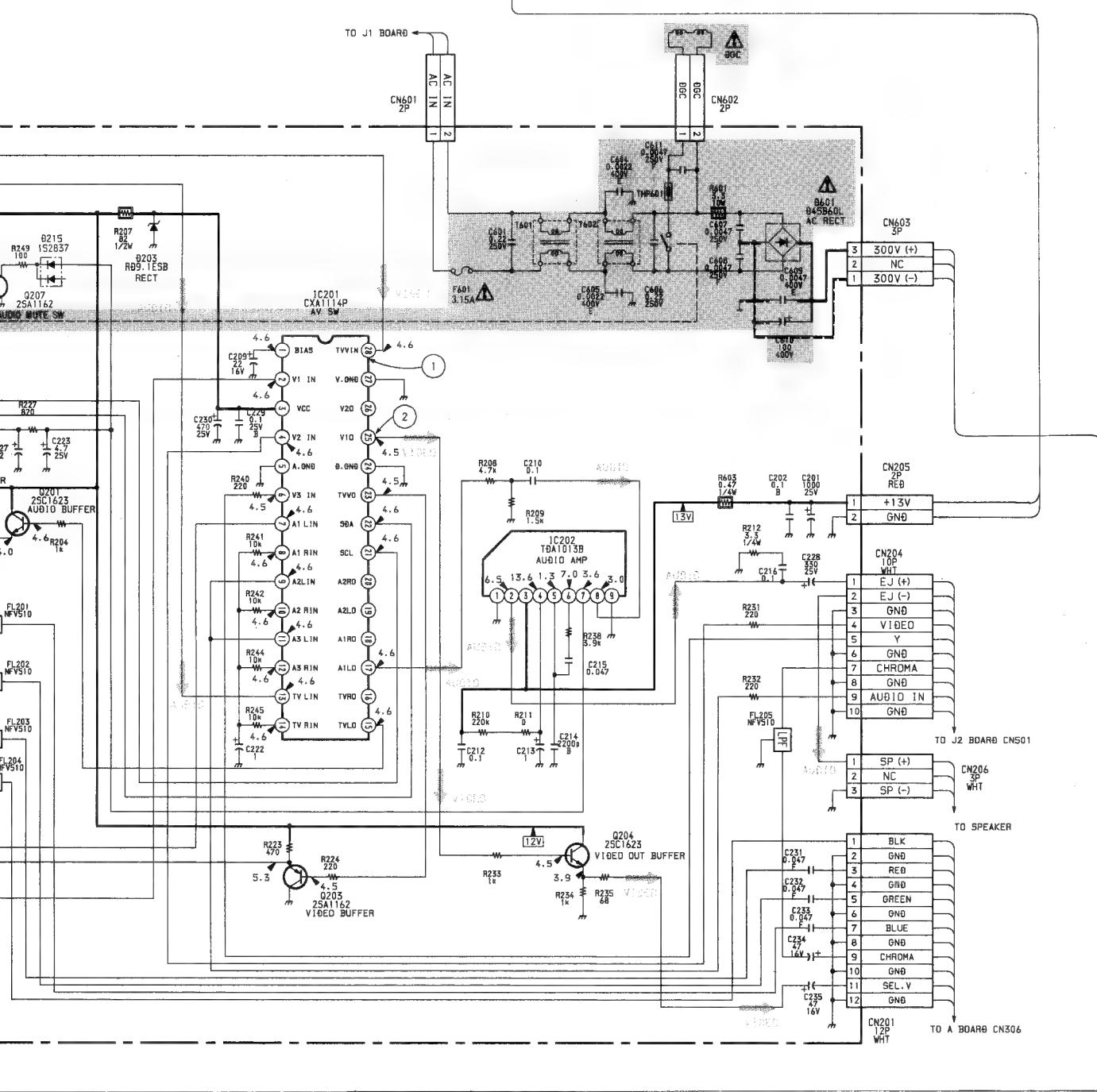
— G board —



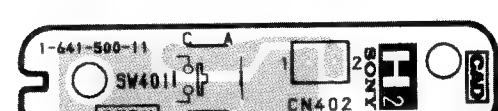
WAVEFORMS Y BOARD



— Y board —



— H1 board —



— H2 board —

**G1**

(PROTECT)

**G**

(POWER SUPPLY)

**Y**(A/V SW  
AUDIO AMP  
AC RECT)**H1**

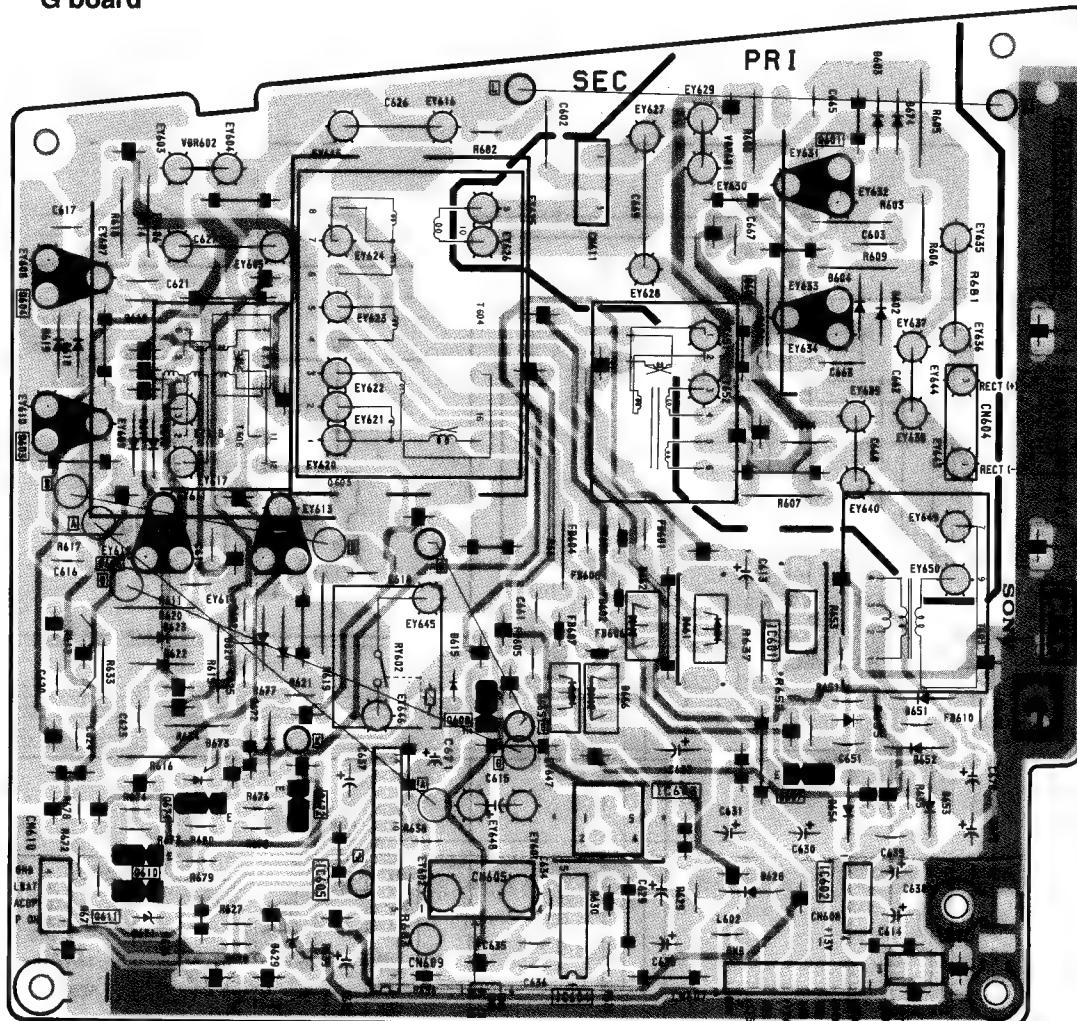
(DEMODULATOR)

**H2**

(STBY SW)

**H3** (TV/VIDEO SW)

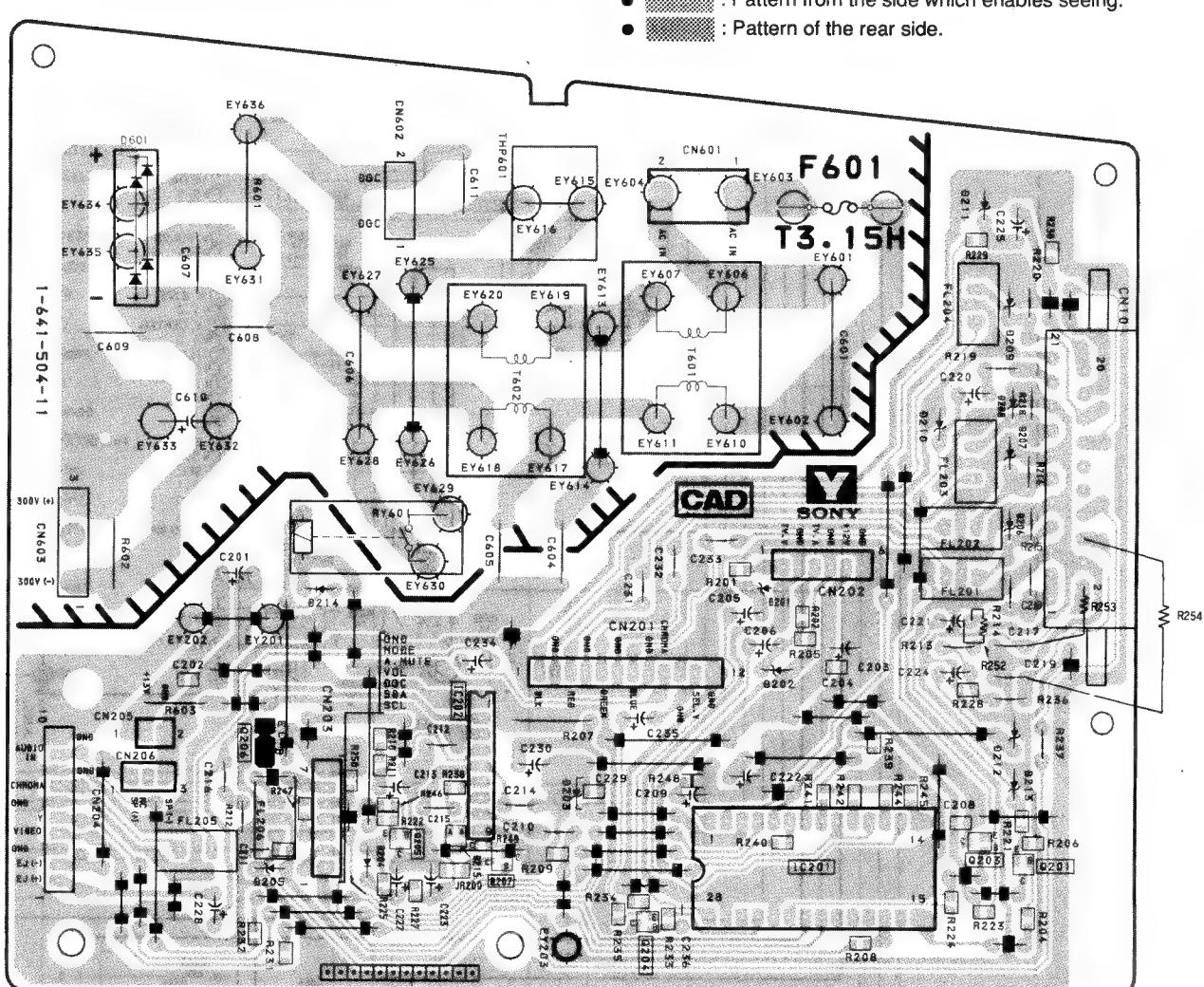
— G board —



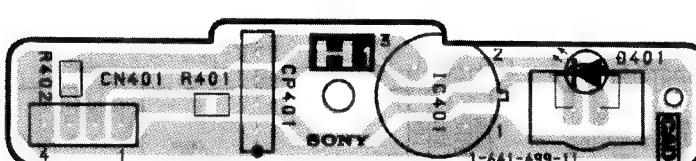
## Note :

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

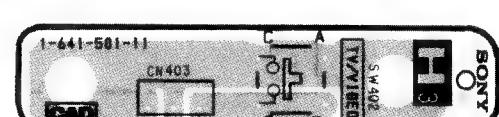
— Y board —



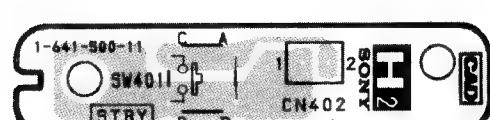
— H1 board —



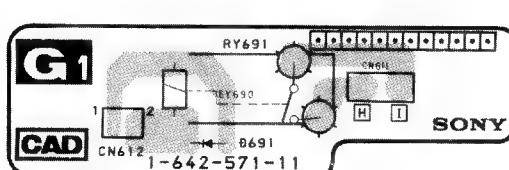
— H3 board —



— H2 board —

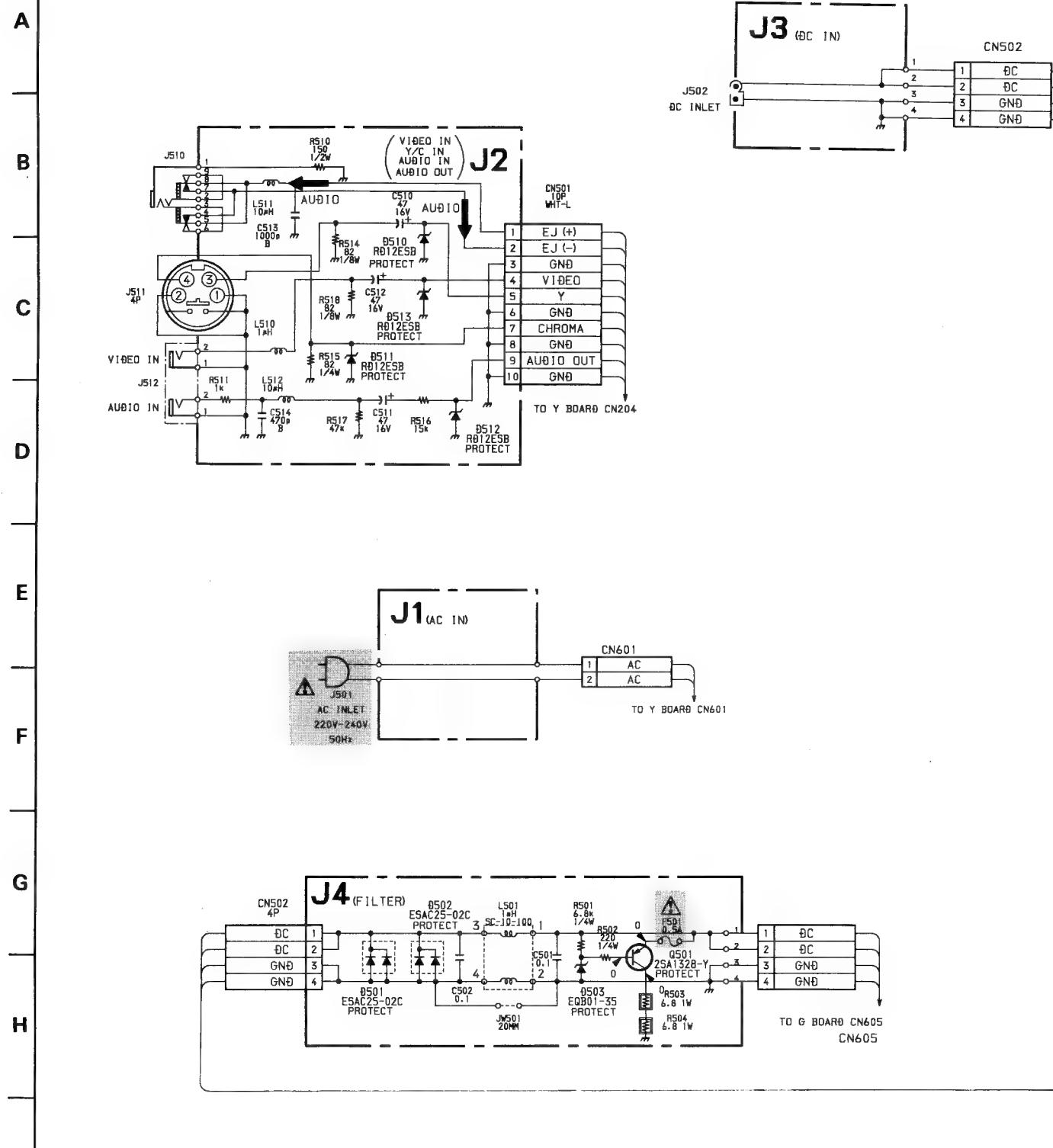


— G1 BOARD —

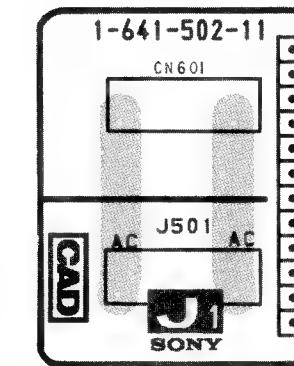


## NOTE:

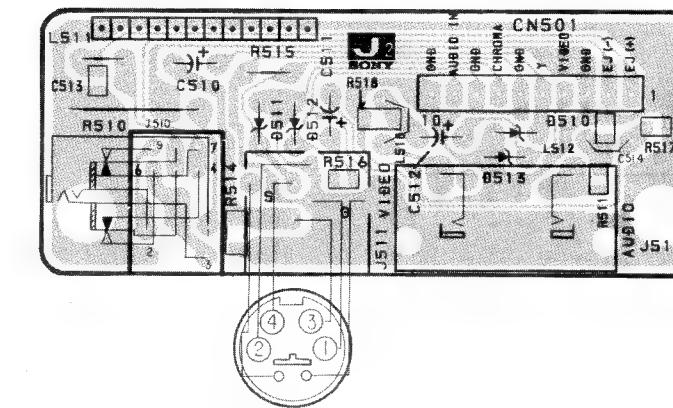
The circuit indicated as left contains 600 Vp-p. Care must be paid to prevent inspection or repairing.



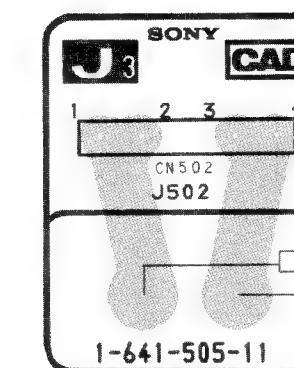
### — J1 board



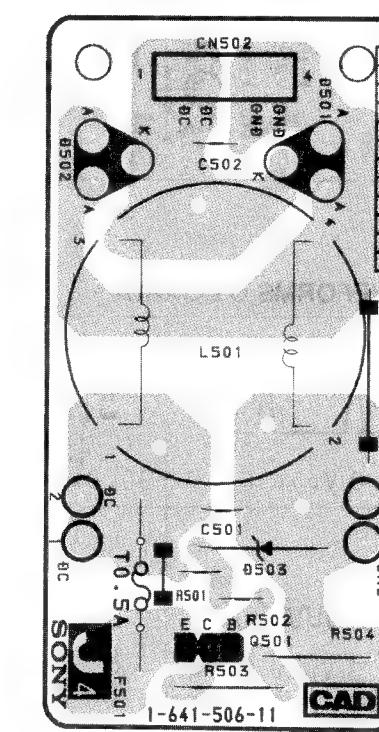
### — J2 board



— J3 board



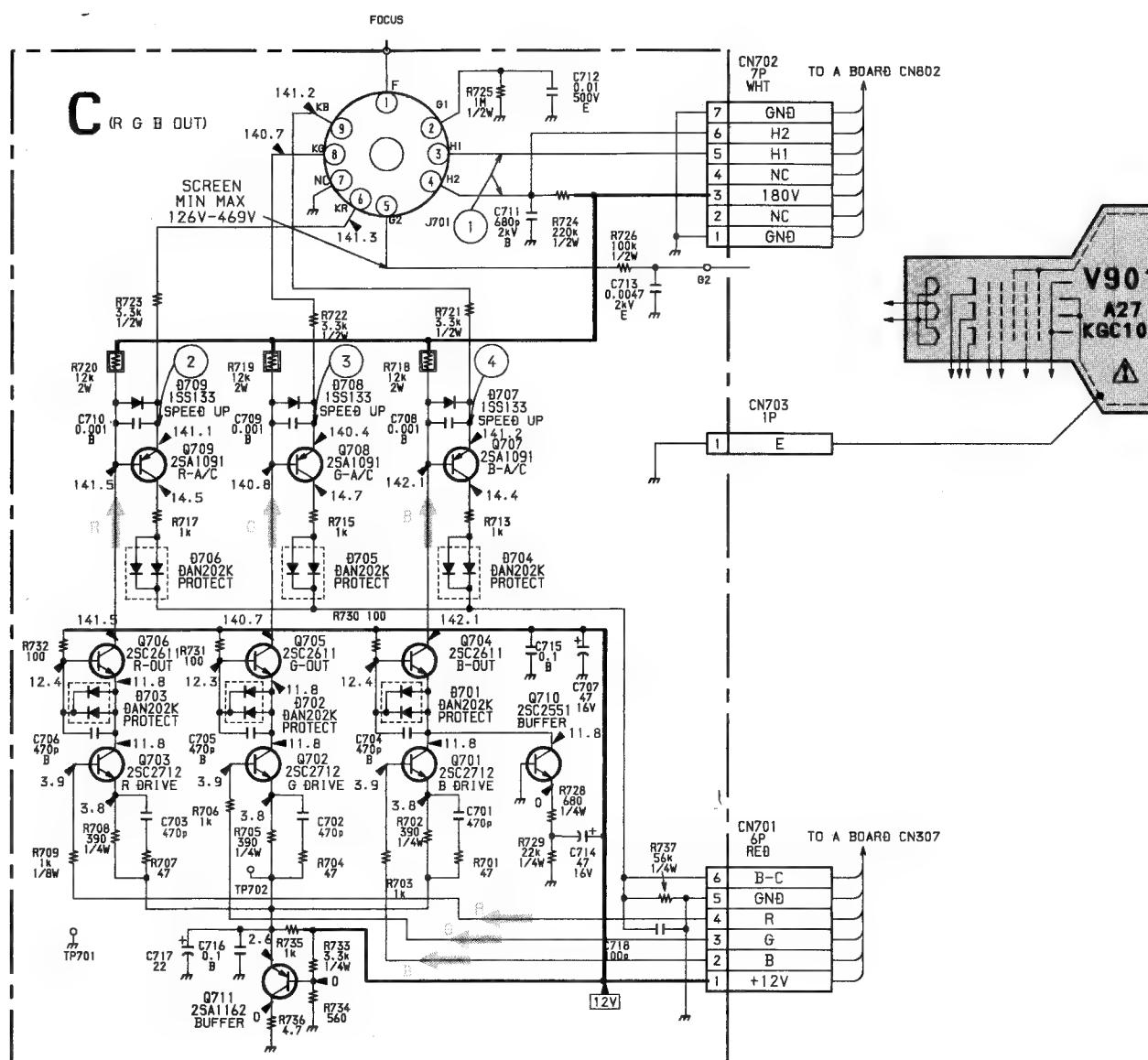
### — J4 board —



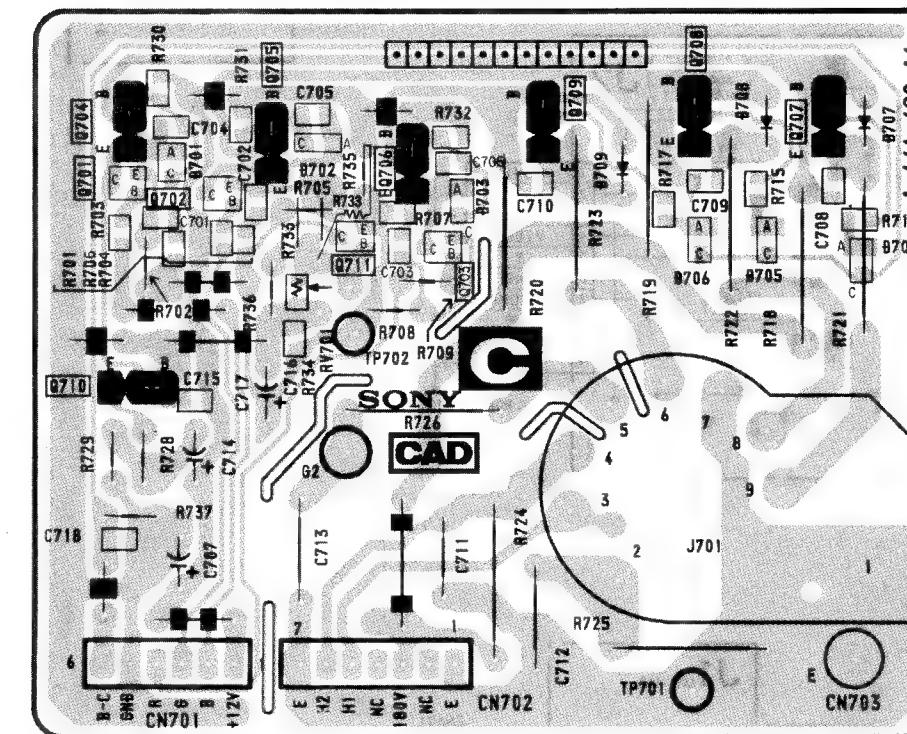
# 1 | 2 | 3 | 4 | 5 | 6 | 7

C

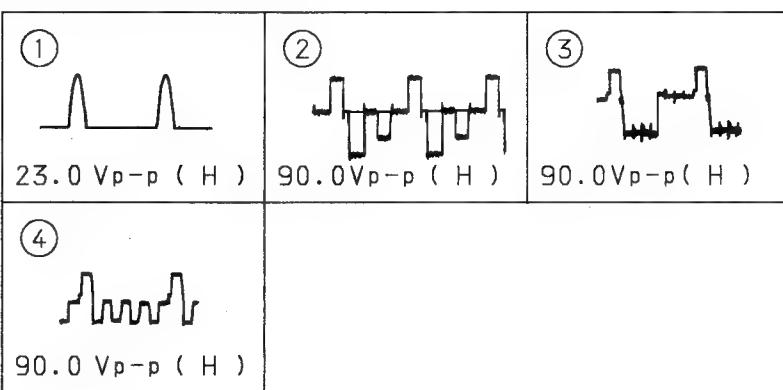
A —  
B —  
C —  
D —  
E —  
F —  
G —  
H —



— C board

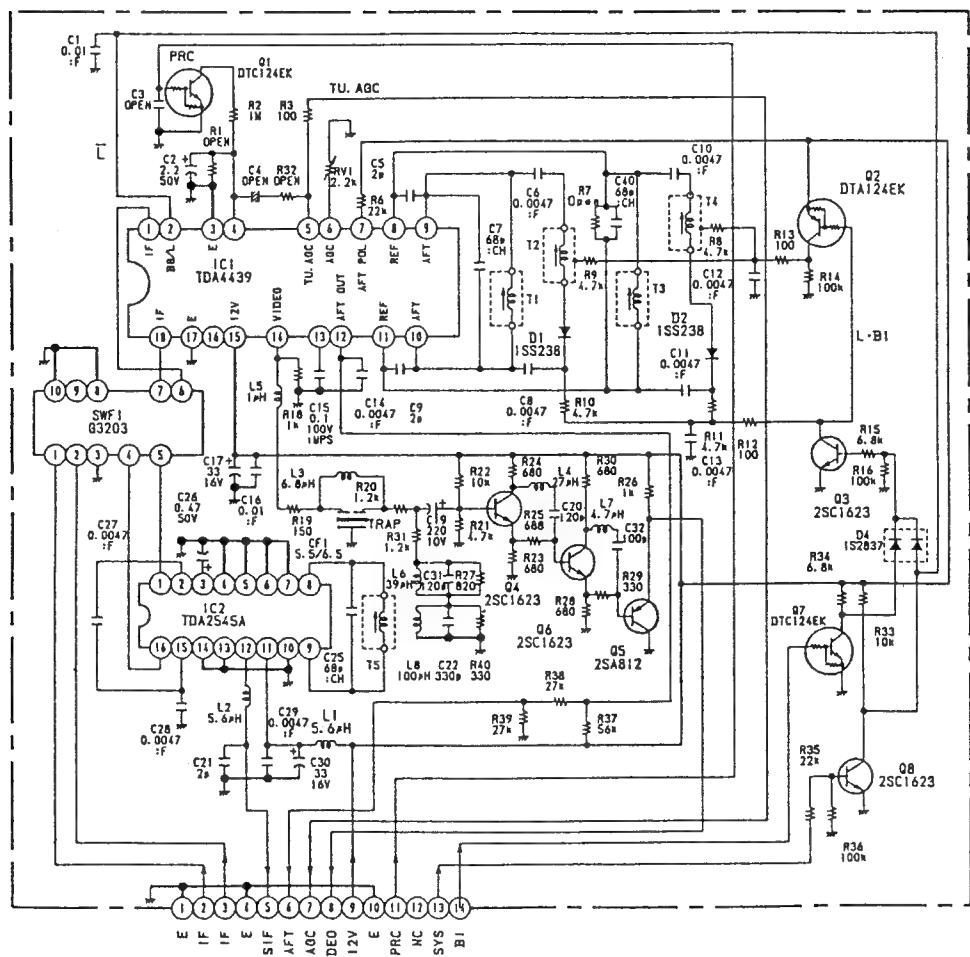


## WAVEFORMS C BOARD



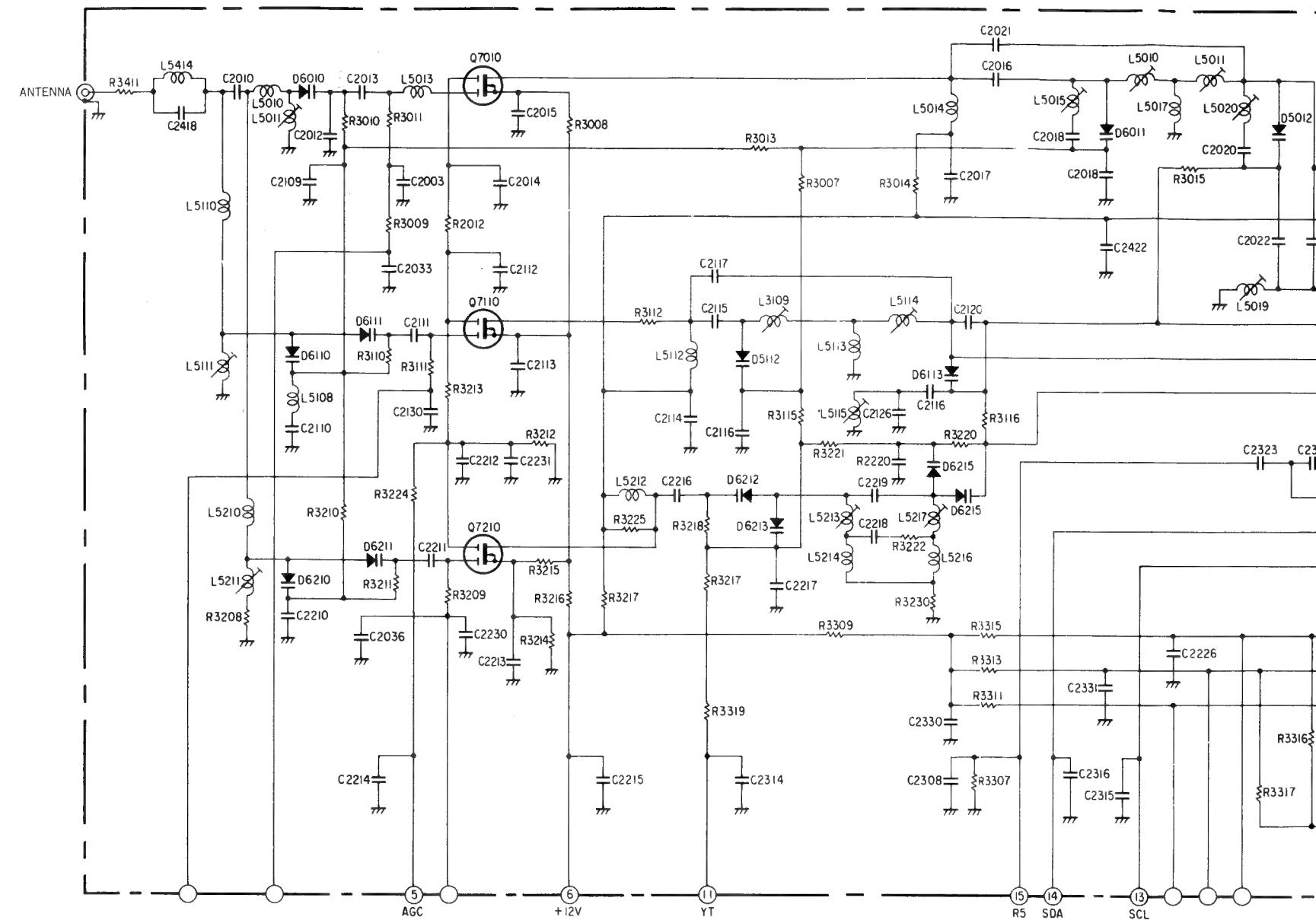
—A board—

VIF101 IFG-389FS



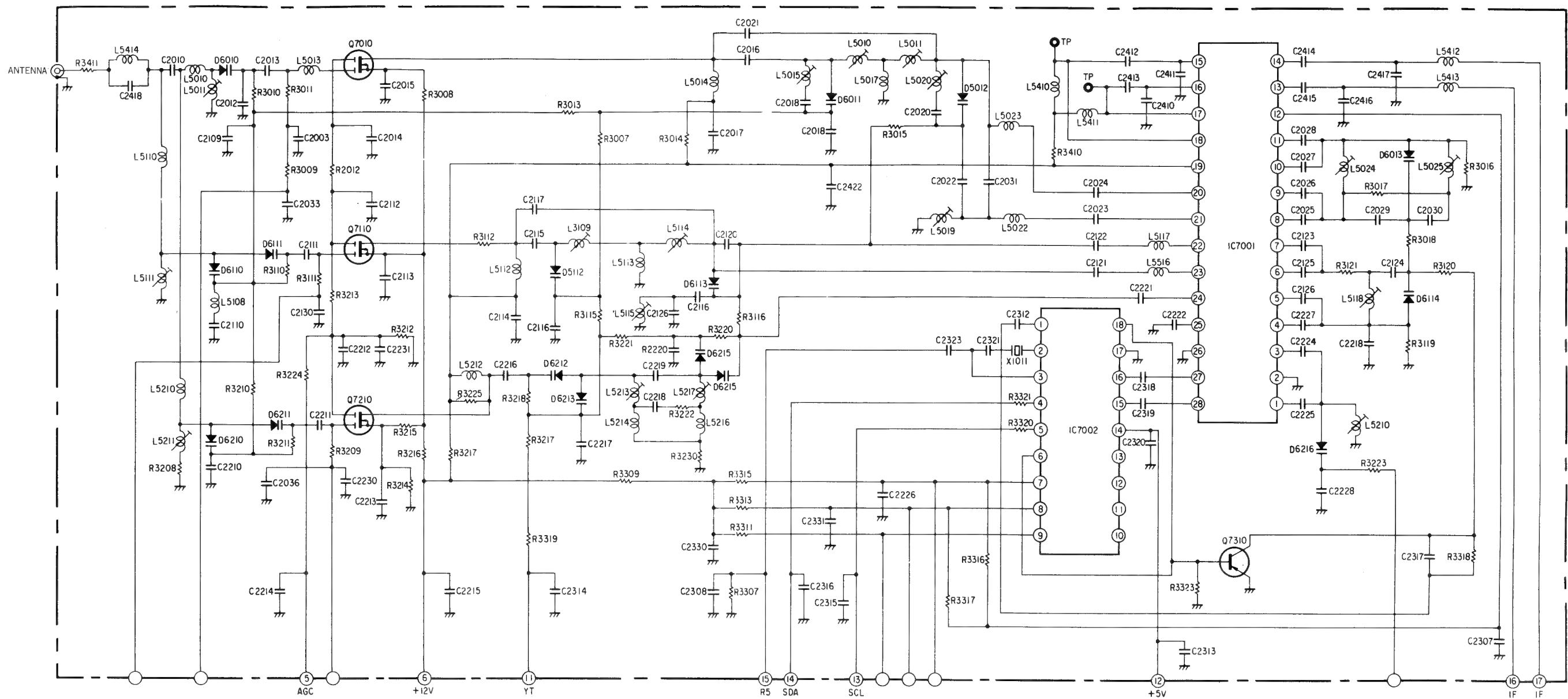
—A board—

TU101 UV816PLL

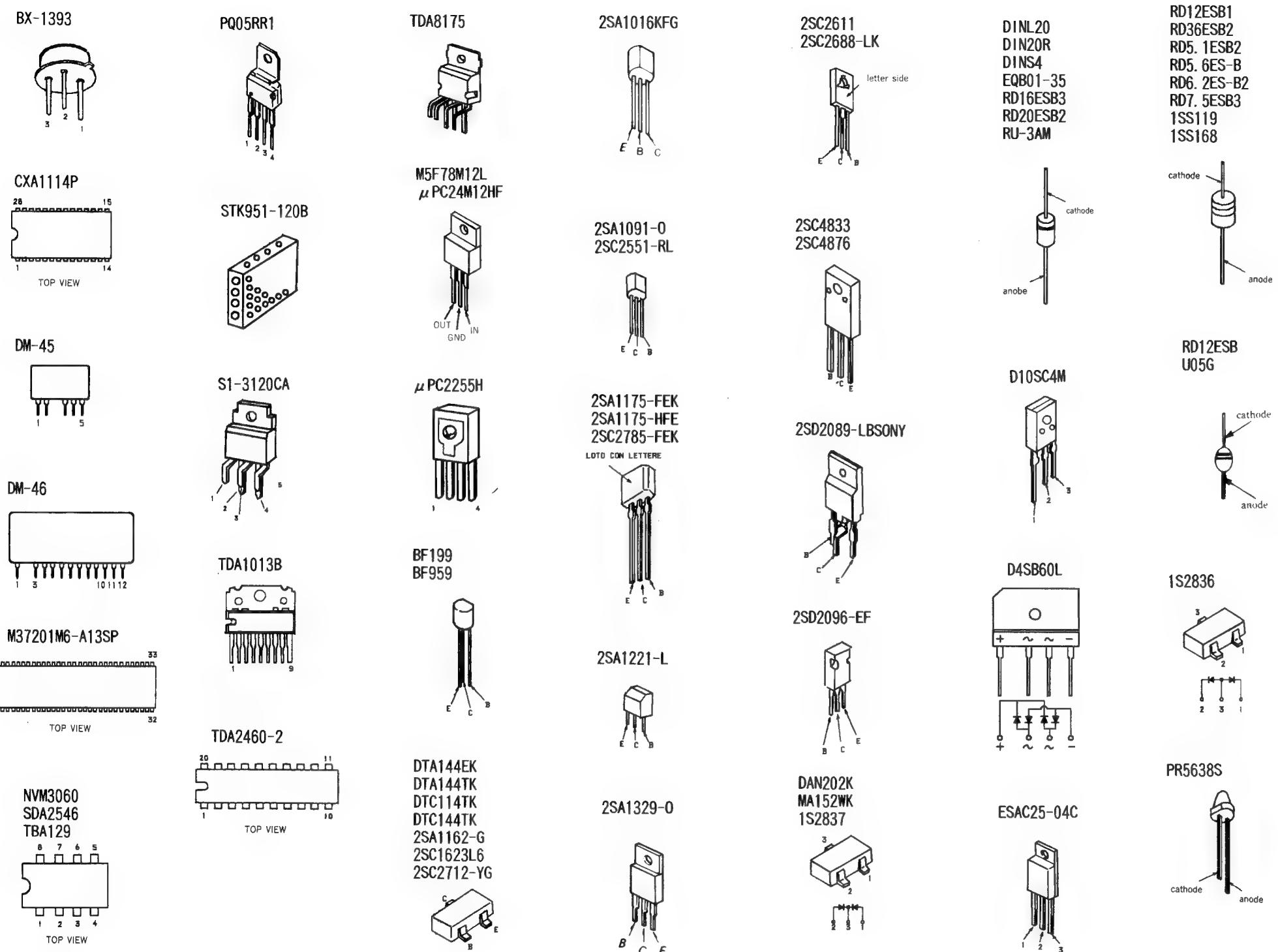


## —A board—

TU101 UV816PLL



**5-4. SEMICONDUCTORS**



## SECTION 6 EXPLODED VIEWS

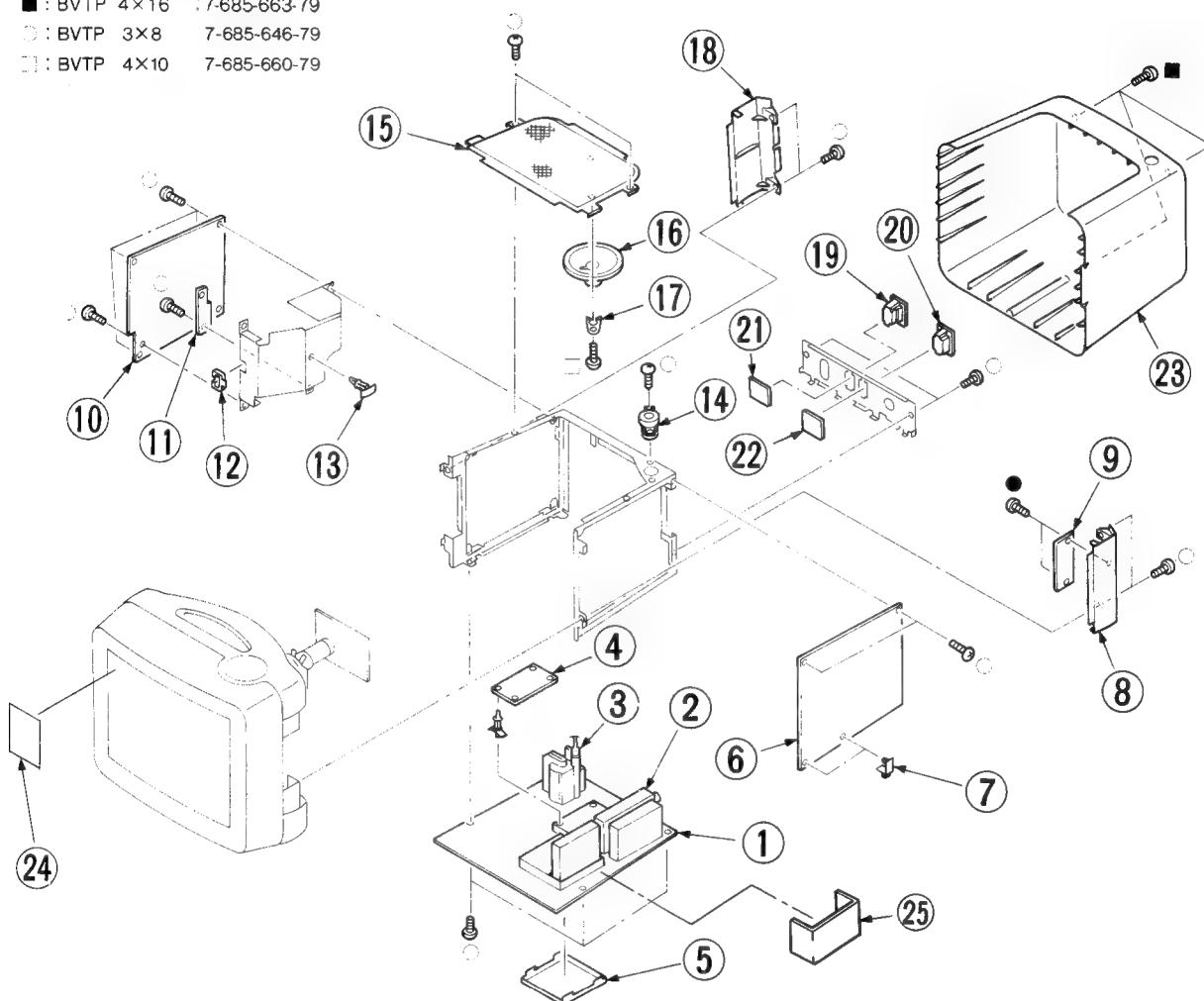
### NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ▲ are critical for safety.  
Replace only with part number specified.

### 6-1. CHASSIS

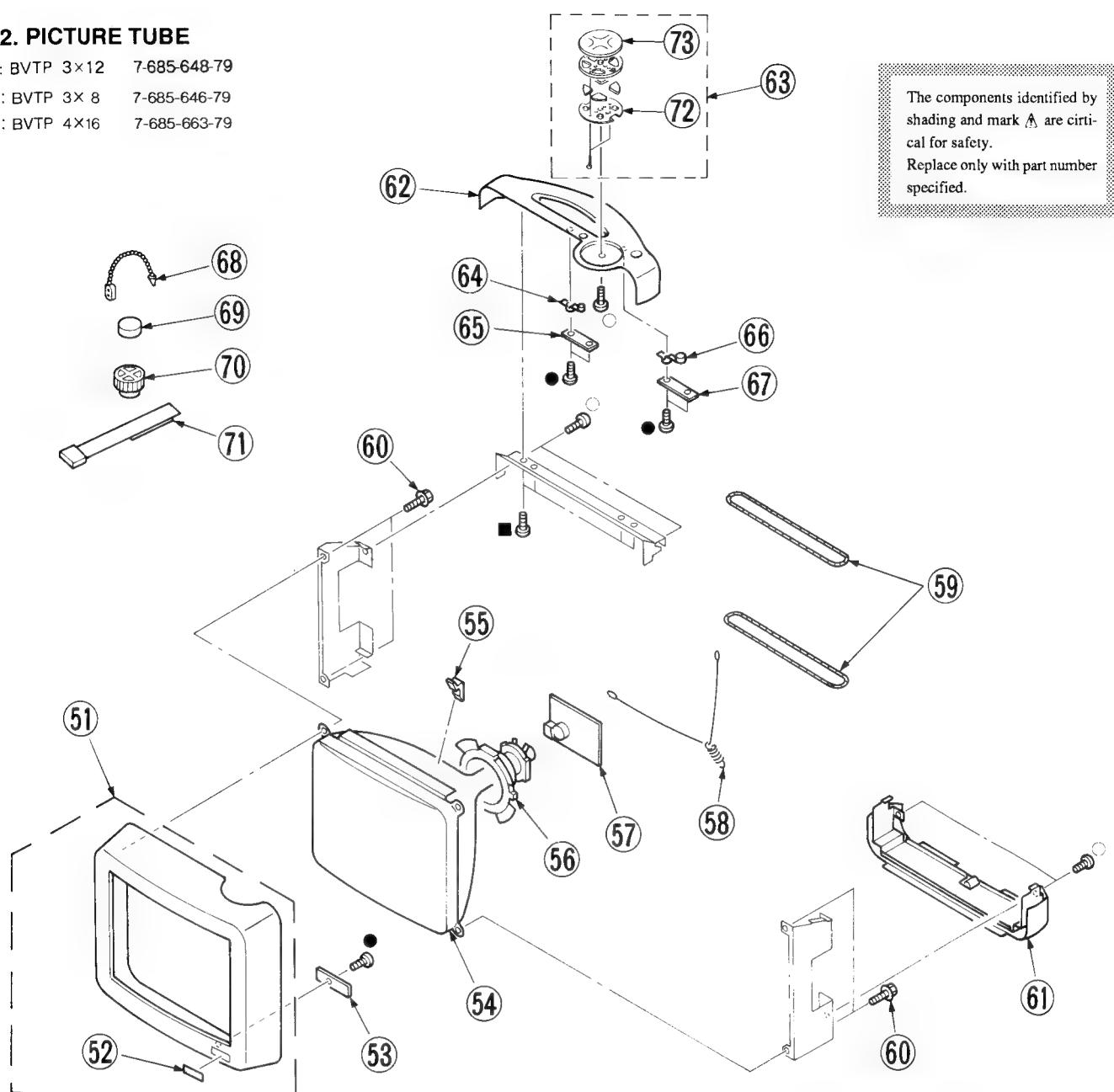
- : BVTP 3×12 7-685-648-79
- : BVTP 4×16 7-685-663-79
- : BVTP 3×8 7-685-646-79
- : BVTP 4×10 7-685-660-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
1	*A-1296-910-A	A BOARD, COMPLETE		13	*3-704-198-11	SUPPORT, PC	
2	▲1-465-301-11	TUNER, ET (UV-816(PLL))		14	4-035-428-01	BRACKET, ANTENNA	
3	▲1-439-476-11	TRANSFORMER ASSY, FLYBACK		15	X-4030-349-1	PLATE ASSY, SP	
4	*1-641-506-12	J4 BOARD		16	1-544-187-11	SPEAKER	
5	*4-394-974-01	CASE (BOTTOM LID), SHIELD		17	*4-338-106-00	HOLDER, SPEAKER	
6	*A-1394-338-A	Y BOARD, COMPLETE		18	4-035-440-01	PLATE (LEFT), SIDE	
7	*3-701-832-00	HINGE, CIRCUIT BOARD		19	1-561-530-00	CONNECTOR (DC POWER)	
8	4-035-436-01	PLATE (RIGHT), SIDE		20	▲1-540-054-11	INLET, AC	
9	*1-641-503-11	J2 BOARD		21	*1-641-505-11	J3 BOARD	
10	*A-1316-122-A	G BOARD, COMPLETE	11	22	*1-641-502-11	J1 BOARD	
11	*1-642-571-11	G1 BOARD		23	X-4030-223-1	COVER ASSY, REAR	
12	*3-646-071-00	HOLDER, WIRE		24	3-703-706-01	STICKER, SONY SYMBOL (25)	
				25	4-036-059-01	SHEET, COPPER	

## 6-2. PICTURE TUBE

- : BVTP 3×12 7-685-648-79
- : BVTP 3×8 7-685-646-79
- : BVTP 4×16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	X-4030-222-1	CABINET ASSY (WITH BEZEL ASSY)		52	X-4030-225-1	PLATE ASSY, TOP	
52	4-035-423-01	WINDOW, ORNAMENTAL		63	1-466-678-11	SWITCH BLOCK	72, 73
53	*1-641-499-11	H1 BOARD		64	4-035-432-01	BUTTON (A), MULTI	
54	A8-735-821-05	<b>PICTURE TUBE (A27KGC10X)</b>		65	*1-641-501-11	H3 BOARD	
55	3-704-495-01	SPACER, DY		66	4-035-429-01	BUTTON (B), MULTI	
56	A1-451-354-11	<b>DEFLECTION YOKE (Y11SLA)</b>		67	*1-641-500-11	H2 BOARD	
57	*A-1331-179-A	C BOARD, COMPLETE		68	4-308-870-00	CLIP, LEAD WIRE	
58	4-303-774-99	SPRING		69	1-452-512-11	MAGNET	
59	A1-426-590-11	<b>COIL DEMAGNETIZATION</b>		70	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
60	4-365-808-01	SCREW (5), TAPPING		71	X-4308-815-0	PERMALLOY ASSY, CONVERGENCE	
61	X-4030-224-1	PLATE ASSY, BOTTOM		72	*9-902-396-01	PW BOARD	
				73	9-902-397-01	SHEET, RUBBER	

## **SECTION 7**

### **ELECTRICAL PARTS LIST**

A

**NOTE :**

The components identified by shading and mark  are critical for safety.  
Replace only with part number specified.

- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

When indicating parts by reference number, please include the board name.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

## RESISTORS

- All resistors are in ohms
- F : nonflammable

MF:  $\mu$  F, PF:  $\mu$   $\mu$  F + MMH:mH, UH:  $\mu$  H

REF. NO.	PART NO.	DESCRIPTION		REMARK	REF. NO.	PART NO.	DESCRIPTION		REMARK	
*A-1296-910-A		A BOARD, COMPLETE	*****		C309	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
*4-341-751-01	EYELET				C310	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
*4-341-752-01	EYELET				C311	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
		<CAPACITOR>			C312	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C101	1-126-233-11	ELECT	22MF	20%	50V	C313	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C102	1-126-103-11	ELECT	470MF	20%	16V	C314	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C103	1-136-165-00	FILM	0.1MF	5%	50V	C315	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C104	1-136-165-00	FILM	0.1MF	5%	50V	C316	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C105	1-126-103-11	ELECT	470MF	20%	16V	C317	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C106	1-126-233-11	ELECT	22MF	20%	50V	C318	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C107	1-163-101-00	CERAMIC CHIP 22PF		5%	50V	C319	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C108	1-163-101-00	CERAMIC CHIP 22PF		5%	50V	C320	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C109	1-124-910-11	ELECT	47MF	20%	50V	C321	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C111	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C322	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C112	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C323	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C113	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C324	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C114	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C325	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C115	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C326	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C116	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C327	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C117	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C328	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C118	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C329	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C119	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C330	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C120	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C331	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	
C121	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C332	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C122	1-124-910-11	ELECT	47MF	20%	50V	C333	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C123	1-130-479-00	MYLAR	0.0047MF	5%	50V	C334	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C124	1-126-233-11	ELECT	22MF	20%	50V	C335	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C125	1-163-029-11	CERAMIC CHIP 0.0047MF		50V	C336	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C126	1-124-910-11	ELECT	47MF	20%	50V	C337	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C127	1-124-903-11	ELECT	1MF	20%	50V	C338	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C128	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C339	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C129	1-163-031-11	CERAMIC CHIP 0.01MF		50V	C340	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	
C130	1-130-479-00	MYLAR	0.0047MF	5%	50V	C341	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C131	1-124-910-11	ELECT	47MF	20%	50V	C342	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C132	1-124-910-11	ELECT	47MF	20%	50V	C343	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C133	1-136-161-00	FILM	0.047MF	5%	50V	C344	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C134	1-136-153-00	FILM	0.01MF	5%	50V	C345	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C135	1-136-153-00	FILM	0.01MF	5%	50V	C346	1-124-120-11	ELECT 220MF	20%	16V
C136	1-163-227-11	CERAMIC CHIP 10PF		5%	50V	C347	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C137	1-164-004-11	CERAMIC CHIP 0.1MF		10%	25V	C348	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C301	1-163-103-00	CERAMIC CHIP 27PF		5%	50V	C349	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C302	1-163-097-00	CERAMIC CHIP 15PF		5%	50V	C350	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C303	1-163-125-00	CERAMIC CHIP 220PF		5%	50V	C351	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C304	1-163-101-00	CERAMIC CHIP 22PF		5%	50V	C352	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C305	1-163-101-00	CERAMIC CHIP 22PF		5%	50V	C353	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C306	1-163-101-00	CERAMIC CHIP 22PF		5%	50V	C354	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C307	1-163-101-00	CERAMIC CHIP 22PF		5%	50V	C355	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C308	1-163-101-00	CERAMIC CHIP 22PF		5%	50V	C356	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
						C357	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
						C359	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
						C360	1-126-101-11	ELECT 100MF	20%	16V

The components identified by shading and mark A are critical for safety.  
Replace only with part number specified.

A

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C361	1-163-125-00	CERAMIC CHIP 220PF	5%	50V			
C362	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C363	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C364	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C365	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C366	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V			
C367	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C368	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C369	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C370	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C371	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C372	1-163-101-00	CERAMIC CHIP 22PF	5%	50V			
C373	1-124-903-11	ELECT 1MF	20%	50V			
C379	1-124-911-11	ELECT 220MF	20%	50V			
C380	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V			
C381	1-124-907-11	ELECT 10MF	20%	50V			
C382	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V			
C383	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V			
C384	1-126-101-11	ELECT 100MF	20%	16V			
C385	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V			
C386	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V			
C387	1-163-125-00	CERAMIC CHIP 220PF	5%	50V			
C388	1-163-125-00	CERAMIC CHIP 220PF	5%	50V			
C389	1-126-101-11	ELECT 100MF	20%	16V			
C390	1-126-101-11	ELECT 100MF	20%	16V			
C391	1-163-125-00	CERAMIC CHIP 220PF	5%	50V			
C392	1-163-125-00	CERAMIC CHIP 220PF	5%	50V			
C393	1-163-125-00	CERAMIC CHIP 220PF	5%	50V			
C394	1-163-129-00	CERAMIC CHIP 330PF	5%	50V			
C395	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V			
C396	1-163-006-11	CERAMIC CHIP 560PF	10%	50V			
C397	1-163-003-11	CERAMIC CHIP 330PF	10%	50V			
C801	1-124-922-11	ELECT 1000MF	20%	50V			
C802	1-136-165-00	FILM 0.1MF	5%	50V			
C803	1-124-911-11	ELECT 220MF	20%	50V			
C804	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V			
C805	1-124-634-11	ELECT 1MF	20%	250V			
C807	1-124-925-11	ELECT 2.2MF	20%	50V			
C808	1-106-220-00	MYLAR 0.1MF	10%	100V			
C809	1-101-821-00	CERAMIC 0.0022MF		500V			
C810	1-162-115-00	CERAMIC 330PF	10%	2KV			
C813	1-124-927-11	ELECT 4.7MF	20%	50V			
C814	1-124-922-11	ELECT 1000MF	20%	50V			
C815	1-136-164-00	FILM 0.082MF	5%	50V			
C816	1-124-910-11	ELECT 47MF	20%	50V			
C817	1-126-101-11	ELECT 100MF	20%	16V			
C818	1-124-927-11	ELECT 4.7MF	20%	50V			
C819	1-106-367-00	MYLAR 0.01MF	10%	200V			
C821	1-124-912-11	ELECT 330MF	20%	50V			
C822	1-136-105-00	FILM 0.33MF	5%	200V			
C824	1-101-821-00	CERAMIC 0.0022MF		500V			
C827	1-136-070-11	FILM 0.005MF	5%	2KV			
C830	1-102-030-00	CERAMIC 330PF	10%	500V			
C831	1-123-024-21	ELECT 33MF		160V			
C832	1-124-120-11	ELECT 220MF	20%	16V			
C833	1-123-939-00	ELECT 10MF	20%	200V			
C834	1-106-363-00	MYLAR 0.0068MF		200V			
C836	1-136-165-00	FILM 0.1MF	5%	50V			
C837	1-124-907-11	ELECT 10MF	20%	50V			
C838	1-102-228-00	CERAMIC 470PF	10%	500V			
C839	1-163-131-00	CERAMIC CHIP 390PF	5%	50V			
C841	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V			
C842	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V			
<FILTER>							
CD101	1-404-751-11	DISCRIMINATOR, CERAMIC					
CD102	1-404-684-11	DISCRIMINATOR, CERAMIC					
CF101	1-527-840-00	FILTER, CERAMIC					
CF102	1-567-569-11	FILTER, CERAMIC					
SWF101	1-404-711-11	SAWF					
SWF102	1-404-712-11	SAWF					
<CONNECTOR>							
CN101	*1-564-509-11	PLUG, CONNECTOR 6P					
CN301	*1-564-511-11	PLUG, CONNECTOR 8P					
CN302	*1-564-510-11	PLUG, CONNECTOR 7P					
CN303	*1-564-508-11	PLUG, CONNECTOR 5P					
CN304	*1-564-507-11	PLUG, CONNECTOR 4P					
CN305	*1-564-506-11	PLUG, CONNECTOR 3P					
CN306	*1-564-515-11	PLUG, CONNECTOR 12P					
CN307	*1-564-509-11	PLUG, CONNECTOR 6P					
CN308	*1-564-510-11	PLUG, CONNECTOR 7P					
CN309	*1-564-505-11	PLUG, CONNECTOR 2P					
CN310	*1-564-508-11	PLUG, CONNECTOR 5P					
CN801	*1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P					
CN802	*1-564-510-11	PLUG, CONNECTOR 7P					
<COMPOSITION CIRCUIT BLOCK>							
CP303	1-232-680-11	COMPOSITION CIRCUIT BLOCK					
CP304	1-232-680-11	COMPOSITION CIRCUIT BLOCK					
<DIODE>							
D101	8-719-903-27	DIODE 1SS168					
D102	8-719-903-27	DIODE 1SS168					
D305	8-719-400-18	DIODE MA152WK					
D310	8-719-109-93	DIODE RD6.2ES-B2					
D311	8-719-400-18	DIODE MA152WK					
D312	8-719-400-18	DIODE MA152WK					
D313	8-719-110-04	DIODE RD7.5ES-B3					
D314	8-719-400-18	DIODE MA152WK					
D315	8-719-911-19	DIODE 1SS119					
D801	8-719-911-55	DIODE U05G					
D802	8-719-109-93	DIODE RD6.2ES-B2					
D807	8-719-300-33	DIODE RU-3AM					
D810	8-719-110-83	DIODE RD36ES-B2					
D811	8-719-300-33	DIODE RU-3AM					
D812	8-719-400-18	DIODE MA152WK					
D813	8-719-400-18	DIODE MA152WK					
D814	8-719-400-18	DIODE MA152WK					
<IC>							
IC101	8-759-014-34	IC TDA2460-2					
IC102	8-759-003-90	IC TBA129					
IC301	8-749-022-99	IC STK951-120B					
IC302	8-759-047-35	IC M37201M6-A13SP					
IC303	8-759-748-56	IC SDA2546					
IC304	8-759-047-36	IC PQ05RR1					
	4-382-854-11	SCREW (M3X10), P, SW (+); IC304					
IC305	8-759-143-11	IC UPC24M12HF					
	4-382-854-11	SCREW (M3X10), P, SW (+); IC305					
IC306	8-759-047-17	IC NVM3060					

**A**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
IC801	8-759-047-73 4-382-854-11	IC TDA8175 SCREW (M3X10), P, SW (+); IC801					
<b>&lt;RESISTOR&gt;</b>							
JR1	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR2	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR3	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR4	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR5	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR6	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR7	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR11	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR12	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR16	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR17	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR18	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR19	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR20	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR23	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR24	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR25	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR26	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR27	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR28	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR31	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR32	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR37	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR38	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR39	1-216-295-00	METAL GLAZE	0	5%	1/10W		
<b>&lt;TRANSISTOR&gt;</b>							
Q101	8-729-903-30	TRANSISTOR DTC144TK					
Q102	8-729-903-29	TRANSISTOR DTA144TK					
Q103	8-729-901-59	TRANSISTOR BF199					
Q104	8-729-000-12	TRANSISTOR BF959					
Q105	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q106	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q107	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q108	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q109	8-729-903-30	TRANSISTOR DTC144TK					
Q110	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q111	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q306	8-729-903-30	TRANSISTOR DTC144TK					
Q307	8-729-119-77	TRANSISTOR 2SA1175-FEK					
Q308	8-729-901-06	TRANSISTOR DTA144EK					
Q309	8-729-903-30	TRANSISTOR DTC144TK					
Q310	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q311	8-729-230-46	TRANSISTOR 2SA1162-YG					
Q314	8-729-902-99	TRANSISTOR DTC114TK					
Q315	8-729-902-99	TRANSISTOR DTC114TK					
Q316	8-729-902-99	TRANSISTOR DTC114TK					
Q317	8-729-902-99	TRANSISTOR DTC114TK					
Q804	8-729-119-80	TRANSISTOR 2SC2688-LK					
Q805	8-729-820-50	TRANSISTOR 2SA1016KFG					
Q806	8-729-231-95 4-382-854-11	TRANSISTOR 2SD2089-LBSONY SCREW (M3X10), P, SW (+); Q806					
Q807	8-729-119-79	TRANSISTOR 2SC2785-FEK					
Q808	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q809	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q810	8-729-230-46	TRANSISTOR 2SA1162-YG					
Q811	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q813	8-729-119-79	TRANSISTOR 2SC2785-FEK					
Q814	8-729-230-46	TRANSISTOR 2SA1162-YG					
Q815	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q816	8-729-120-28	TRANSISTOR 2SC1623-L5L6					
Q1031	8-729-902-99	TRANSISTOR DTC114TK					
Q1032	8-729-902-99	TRANSISTOR DTC114TK					
JR70	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR71	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR72	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR73	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR74	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR75	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR76	1-216-295-00	METAL GLAZE	0	5%	1/10W		
JR77	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR78	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR79	1-216-296-00	METAL GLAZE	0	5%	1/8W		
JR80	1-216-295-00	METAL GLAZE	0	5%	1/10W		

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
JR81	1-216-295-00	METAL GLAZE	0 5% 1/10W	R310	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR82	1-216-295-00	METAL GLAZE	0 5% 1/10W	R311	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR83	1-216-296-00	METAL GLAZE	0 5% 1/8W	R312	1-216-295-00	METAL GLAZE	0 5% 1/10W
JR85	1-216-296-00	METAL GLAZE	0 5% 1/8W	R313	1-216-073-00	METAL GLAZE	10K 5% 1/10W
JR86	1-216-295-00	METAL GLAZE	0 5% 1/10W	R314	1-216-073-00	METAL GLAZE	10K 5% 1/10W
JR87	1-216-296-00	METAL GLAZE	0 5% 1/8W	R315	1-216-089-00	METAL GLAZE	47K 5% 1/10W
JR88	1-216-296-00	METAL GLAZE	0 5% 1/8W	R317	1-216-033-00	METAL GLAZE	220 5% 1/10W
JR89	1-216-296-00	METAL GLAZE	0 5% 1/8W	R318	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR90	1-216-296-00	METAL GLAZE	0 5% 1/8W	R319	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR92	1-216-296-00	METAL GLAZE	0 5% 1/8W	R320	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR93	1-216-296-00	METAL GLAZE	0 5% 1/8W	R321	1-216-089-00	METAL GLAZE	47K 5% 1/10W
JR94	1-216-296-00	METAL GLAZE	0 5% 1/8W	R322	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR95	1-216-296-00	METAL GLAZE	0 5% 1/8W	R323	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R101	1-216-033-00	METAL GLAZE	220 5% 1/10W	R324	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R102	1-216-295-00	METAL GLAZE	0 5% 1/10W	R325	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R103	1-216-033-00	METAL GLAZE	220 5% 1/10W	R326	1-216-033-00	METAL GLAZE	220 5% 1/10W
R104	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R327	1-216-033-00	METAL GLAZE	220 5% 1/10W
R105	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R328	1-216-025-00	METAL GLAZE	100 5% 1/10W
R106	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R329	1-216-025-00	METAL GLAZE	100 5% 1/10W
R108	1-216-025-00	METAL GLAZE	100 5% 1/10W	R330	1-216-025-00	METAL GLAZE	100 5% 1/10W
R109	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R331	1-216-025-00	METAL GLAZE	100 5% 1/10W
R110	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R332	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R111	1-216-041-00	METAL GLAZE	470 5% 1/10W	R333	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R112	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R334	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R113	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R335	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R114	1-216-021-00	METAL GLAZE	68 5% 1/10W	R336	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R115	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R337	1-216-033-00	METAL GLAZE	220 5% 1/10W
R116	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R338	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R117	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R339	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R118	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R340	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R119	1-216-033-00	METAL GLAZE	220 5% 1/10W	R341	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R120	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R342	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R121	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R343	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R122	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R344	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R123	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R345	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R124	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R346	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R125	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R347	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R126	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R348	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R127	1-216-041-00	METAL GLAZE	470 5% 1/10W	R349	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R128	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R350	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R129	1-216-037-00	METAL GLAZE	330 5% 1/10W	R351	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R132	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R352	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R133	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R353	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R134	1-216-041-00	METAL GLAZE	470 5% 1/10W	R354	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R135	1-216-025-00	METAL GLAZE	100 5% 1/10W	R355	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R136	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R356	1-216-025-00	METAL GLAZE	100 5% 1/10W
R137	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R357	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R138	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R358	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R139	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R359	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R140	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R360	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R141	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R361	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R142	1-216-043-00	METAL GLAZE	560 5% 1/10W	R362	1-216-039-00	METAL GLAZE	390 5% 1/10W
R143	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R363	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R144	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R364	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R145	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R366	1-216-033-00	METAL GLAZE	220 5% 1/10W
R301	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R367	1-216-033-00	METAL GLAZE	220 5% 1/10W
R302	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R368	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R303	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R371	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R304	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R372	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R305	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R377	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R306	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R378	1-216-033-00	METAL GLAZE	220 5% 1/10W
R307	1-216-033-00	METAL GLAZE	220 5% 1/10W	R379	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R308	1-216-033-00	METAL GLAZE	220 5% 1/10W	R380	1-216-295-00	METAL GLAZE	0 5% 1/10W

**A** **G**

The components identified by shading and mark  are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK			REF. NO.	PART NO.	DESCRIPTION	REMARK			
R381	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R825	1-249-449-11	CARBON	1.5	5%	1/4W	F
R382	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R828	1-249-443-11	CARBON	0.47	5%	1/4W	F
R383	1-216-033-00	METAL GLAZE	220	5%	1/10W	R831	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R384	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	R833	1-215-897-11	METAL OXIDE	6.8K	5%	2W	F
R388	1-216-025-00	METAL GLAZE	100	5%	1/10W	R834	1-215-901-00	METAL OXIDE	33K	5%	2W	F
R389	1-216-025-00	METAL GLAZE	100	5%	1/10W	R835	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R390	1-216-025-00	METAL GLAZE	100	5%	1/10W	R836	1-216-352-11	METAL OXIDE	1.8	5%	1W	F
R391	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R837	1-247-699-11	CARBON	82	5%	1/4W	F
R392	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R838	1-249-448-11	CARBON	1.2	5%	1/4W	F
R393	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R839	1-215-882-00	METAL OXIDE	22	5%	2W	F
R394	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R840	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R395	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R841	1-215-449-00	METAL	15K	1%	1/4W	
R396	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R842	1-215-455-00	METAL	27K	1%	1/4W	
R397	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R843	1-216-430-11	METAL OXIDE	390	5%	1W	F
R398	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R844	1-216-350-11	METAL OXIDE	1.2	5%	1W	F
R399	1-216-025-00	METAL GLAZE	100	5%	1/10W	R845	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R400	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R846	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R408	1-216-033-00	METAL GLAZE	220	5%	1/10W	R847	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R409	1-216-033-00	METAL GLAZE	220	5%	1/10W	R848	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R410	1-216-033-00	METAL GLAZE	220	5%	1/10W	R849	1-215-888-00	METAL OXIDE	220	5%	2W	F
R411	1-216-033-00	METAL GLAZE	220	5%	1/10W	R850	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R412	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R851	1-249-400-11	CARBON	39	5%	1/4W	
R413	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R852	1-215-473-00	METAL	150K	1%	1/4W	
R414	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R853	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R415	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R854	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R416	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R855	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R417	1-216-025-00	METAL GLAZE	100	5%	1/10W	R857	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R418	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	R858	1-249-437-11	CARBON	47K	5%	1/4W	
R419	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R859	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R420	1-216-295-00	METAL GLAZE	0	5%	1/10W	R860	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R421	1-216-295-00	METAL GLAZE	0	5%	1/10W	<SWITCH>			<SWITCH>			
R422	1-216-073-00	METAL GLAZE	10K	5%	1/10W							
R423	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W							
R424	1-216-089-00	METAL GLAZE	47K	5%	1/10W							
R426	1-216-073-00	METAL GLAZE	10K	5%	1/10W							
R421	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R421	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R422	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R423	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R423	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	R424	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R424	1-216-089-00	METAL GLAZE	47K	5%	1/10W	R426	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R426	1-216-073-00	METAL GLAZE	10K	5%	1/10W	SW301 1-571-532-21 SWITCH, TACTIL			SW301 1-571-532-21 SWITCH, TACTIL			
R427	1-216-073-00	METAL GLAZE	10K	5%	1/10W	<TRANSFORMER>			<TRANSFORMER>			
R430	1-216-073-00	METAL GLAZE	10K	5%	1/10W							
R431	1-216-049-00	METAL GLAZE	1K	5%	1/10W							
R432	1-216-033-00	METAL GLAZE	220	5%	1/10W							
R433	1-216-033-00	METAL GLAZE	220	5%	1/10W							
R434	1-216-033-00	METAL GLAZE	220	5%	1/10W	R434	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R435	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	R435	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R436	1-216-073-00	METAL GLAZE	10K	5%	1/10W	R436	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R437	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R437	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R438	1-216-049-00	METAL GLAZE	1K	5%	1/10W	R438	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R439	1-216-049-00	METAL GLAZE	1K	5%	1/10W	<TRANSFORMER>			<TRANSFORMER>			
R440	1-216-033-00	METAL GLAZE	220	5%	1/10W							
R441	1-216-033-00	METAL GLAZE	220	5%	1/10W							
R442	1-216-049-00	METAL GLAZE	1K	5%	1/10W							
R443	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W							
R444	1-216-073-00	METAL GLAZE	10K	5%	1/10W	<CRYSTAL>			<CRYSTAL>			
R801	1-249-449-11	CARBON	1.5	5%	1/4W							
R802	1-216-073-00	METAL GLAZE	10K	5%	1/10W							
R805	1-216-077-00	METAL GLAZE	15K	5%	1/10W							
R806	1-216-081-00	METAL GLAZE	22K	5%	1/10W							
R808	1-249-451-11	CARBON	2.2	5%	1/4W	<IF BLOCK>			<IF BLOCK>			
R809	1-216-073-00	METAL GLAZE	10K	5%	1/10W							
R811	1-215-889-00	METAL OXIDE	330	5%	2W							
R812	1-249-459-11	CARBON	12K	5%	1/4W							
R813	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W							
R817	1-216-373-11	METAL OXIDE	2.2	5%	2W	<IF BLOCK>			<IF BLOCK>			
R819	1-216-442-00	METAL OXIDE	39K	5%	1W							
R820	1-216-437-91	METAL OXIDE	5.6K	5%	1W							
R824	1-247-716-11	CARBON	1.8K	5%	1/4W							
R817	1-216-373-11	METAL OXIDE	2.2	5%	2W	<IF BLOCK>			<IF BLOCK>			
R819	1-216-442-00	METAL OXIDE	39K	5%	1W							
R820	1-216-437-91	METAL OXIDE	5.6K	5%	1W							
R824	1-247-716-11	CARBON	1.8K	5%	1/4W							
R817	1-216-373-11	METAL OXIDE	2.2	5%	2W	<IF BLOCK>			<IF BLOCK>			
R819	1-216-442-00	METAL OXIDE	39K	5%	1W							
R820	1-216-437-91	METAL OXIDE	5.6K	5%	1W							
R824	1-247-716-11	CARBON	1.8K	5%	1/4W							
R817	1-216-373-11	METAL OXIDE	2.2	5%	2W	<IF BLOCK>			<IF BLOCK>			
R819	1-216-442-00	METAL OXIDE	39K	5%	1W							
R820	1-216-437-91	METAL OXIDE	5.6K	5%	1W							
R824	1-247-716-11	CARBON	1.8K	5%	1/4W							
R817	1-216-373-11	METAL OXIDE	2.2	5%	2W	<IF BLOCK>			<IF BLOCK>			
R819	1-216-442-00	METAL OXIDE	39K	5%	1W							
R820	1-216-437-91	METAL OXIDE	5.6K	5%	1W							
R824	1-247-716-11	CARBON	1.8K	5%	1/4W							
R817	1-216-373-11	METAL OXIDE	2.2	5%	2W	<IF BLOCK>			<IF BLOCK>			
R819	1-216-442-00	METAL OXIDE	39K	5%	1W							
R820	1-216-437-91	METAL OXIDE	5.6K	5%	1W							
R824	1-247-716-11	CARBON	1.8K	5%	1/4W							
R817	1-216-373-11	METAL OXIDE	2.2	5%	2W	<IF BLOCK>			<IF BLOCK>			
R819	1-216-442-00	METAL OXIDE	39K	5%	1W							
R820	1-216-437-91	METAL OXIDE	5.6K	5%	1W							
R824	1-247-716-11	CARBON	1.8K	5%	1/4W							
R817	1-216-373-11	METAL OXIDE	2.2	5%	2W	<IF BLOCK>			<IF BLOCK>			
R819	1-216-442-00	METAL OXIDE	39K	5%	1W							
R820	1-216-437-91	METAL OXIDE	5.6K	5%	1W							
R824	1-247-716-11	CARBON	1.8K	5%	1/4W							
R817	1-216-373-11	METAL OXIDE	2.2	5%	2W	<IF BLOCK>			<IF BLOCK>			
R819	1-216-442-00	METAL OXIDE	39K	5%	1W							
R820	1-216-437-91	METAL OXIDE	5.6K	5%	1W							

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK											
<b>&lt;CAPACITOR&gt;</b>																		
C602	1-161-742-00	CERAMIC	0.0022MF	20%	400V	D622	8-719-510-48	DIODE D1N20R										
C603	1-162-130-11	CERAMIC	180PF	10%	2KV	D623	8-719-510-48	DIODE D1N20R										
C612	1-128-125-91	ELECT	180MF	20%	16V	D628	8-719-510-26	DIODE D1NL20										
C613	1-126-516-11	ELECT	120MF	20%	16V	D629	8-719-110-46	DIODE RD16ES-B3										
C614	1-124-786-11	ELECT	22MF	20%	35V	D651	8-719-510-26	DIODE D1NL20										
C615	1-126-777-51	ELECT	2200MF	20%	35V	D652	8-719-510-26	DIODE D1NL20										
C616	1-136-153-00	FILM	0.01MF	5%	50V	D653	8-719-510-26	DIODE D1NL20										
C617	1-136-153-00	FILM	0.01MF	5%	50V	D654	8-719-510-26	DIODE D1NL20										
C618	1-136-153-00	FILM	0.01MF	5%	50V	D655	8-719-109-88	DIODE RD5.6ES-B1										
C619	1-136-153-00	FILM	0.01MF	5%	50V	D661	8-719-510-13	DIODE D10SC4MR										
C620	1-137-189-11	FILM	0.18MF	5%	50V	D662	8-719-510-12	DIODE D10SC4M										
C621	1-137-189-11	FILM	0.18MF	5%	50V	D665	8-719-025-11	DIODE D8LC20UR										
C622	1-137-189-11	FILM	0.18MF	5%	50V	D666	8-719-025-10	DIODE D8LC20U										
C623	1-137-189-11	FILM	0.18MF	5%	50V	D671	8-719-110-46	DIODE RD16ES-B3										
C624	1-136-153-00	FILM	0.01MF	5%	50V	D672	8-719-510-26	DIODE D1NL20										
C625	1-136-153-00	FILM	0.01MF	5%	50V	D673	8-719-911-19	DIODE 1SS119										
C626	1-137-572-21	FILM	0.056MF	5%	400V	D674	8-719-510-48	DIODE D1N20R										
C627	1-137-552-11	FILM	0.23MF	5%	42V	<b>&lt;FERRITE BEAD&gt;</b>												
C628	1-124-126-00	ELECT	47MF	20%	25V	FB601	1-412-911-11	INDUCTOR, FERRITE BEAD										
C629	1-126-516-11	ELECT	120MF	20%	16V	FB602	1-412-911-11	INDUCTOR, FERRITE BEAD										
C630	1-128-102-11	ELECT	1200MF	20%	16V	FB603	1-412-911-11	INDUCTOR, FERRITE BEAD										
C631	1-126-376-11	ELECT	470MF	20%	25V	FB604	1-412-911-11	INDUCTOR, FERRITE BEAD										
C632	1-126-600-11	ELECT	100MF	20%	160V	FB605	1-412-911-11	INDUCTOR, FERRITE BEAD										
C633	1-124-122-11	ELECT	100MF	20%	25V	FB606	1-412-911-11	INDUCTOR, FERRITE BEAD										
C634	1-101-821-00	CERAMIC	0.0022MF		500V	FB607	1-412-911-11	INDUCTOR, FERRITE BEAD										
C635	1-136-161-00	FILM	0.047MF	5%	50V	FB608	1-412-911-11	INDUCTOR, FERRITE BEAD										
C636	1-102-038-00	CERAMIC	0.001MF		500V	FB609	1-410-396-41	FERRITE BEAD INDUCTOR										
C637	1-126-516-11	ELECT	120MF	20%	16V	FB610	1-410-396-41	FERRITE BEAD INDUCTOR										
C638	1-123-379-00	ELECT	0.47MF	20%	50V	<b>&lt;IC&gt;</b>												
C639	1-136-165-00	FILM	0.1MF	5%	50V	FB611	1-543-194-00	CORE, BEAD										
C640	1-136-153-00	FILM	0.01MF	5%	50V	FB612	1-543-194-00	CORE, BEAD										
C641	1-164-644-11	CERAMIC	330PF	10%	500V	<b>&lt;CONNECTOR&gt;</b>												
C642	1-136-129-00	FILM	0.3MF	5%	400V	IC601	8-759-604-39	IC M5F78M12L										
C643	1-162-130-11	CERAMIC	180PF	10%	2KV	IC602	4-382-854-01	SCREW (M3X8), P, SW (+); IC601										
C644	1-162-130-11	CERAMIC	180PF	10%	2KV	IC603	8-759-047-18	IC UPC2255H										
C645	1-136-170-00	FILM	0.27MF	5%	50V	IC603	8-749-921-99	IC SI-3120CA										
C646	1-136-170-00	FILM	0.27MF	5%	50V	IC604	4-382-854-01	SCREW (M3X8), P, SW (+); IC603										
C647	1-137-573-31	FILM	0.0047MF	5%	630V	IC605	1-809-703-11	MODULE, POWER DM-46										
C648	1-136-067-00	FILM	0.0036MF	3%	2KV	IC605	1-809-704-11	MODULE, POWER DM-45										
C649	1-128-125-91	ELECT	180MF	20%	16V	<b>&lt;COIL&gt;</b>												
CN604	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P									<b>&lt;TRANSISTOR&gt;</b>							
CN605	*1-580-838-11	PIN, CONNECTOR (PC BOARD) 4P									Q601	8-729-010-85	TRANSISTOR 2SC4833					
CN606	*1-564-506-11	PLUG, CONNECTOR 3P									Q602	8-729-010-85	TRANSISTOR 2SC4833					
CN607	*1-564-511-11	PLUG, CONNECTOR 8P									Q603	8-729-011-74	TRANSISTOR 2SC4876					
CN608	*1-564-505-11	PLUG, CONNECTOR 2P									Q604	8-729-011-74	TRANSISTOR 2SC4876					
CN609	1-564-507-11	PLUG, CONNECTOR 4P									Q605	8-729-011-74	TRANSISTOR 2SC4876					
CN610	*1-564-507-11	PLUG, CONNECTOR 4P									Q606	8-729-011-74	TRANSISTOR 2SC4876					
CN611	*1-564-321-00	PIN, CONNECTOR 2P									Q607	8-729-920-92	TRANSISTOR 2SD2096-EF					
<b>&lt;DIODE&gt;</b>								Q608	8-729-920-92	TRANSISTOR 2SD2096-EF								
D602	8-719-510-48	DIODE D1N20R									Q610	8-729-122-12	TRANSISTOR 2SA1221-L					
D603	8-719-510-48	DIODE D1N20R									Q611	8-729-920-92	TRANSISTOR 2SD2096-EF					
D604	8-719-510-48	DIODE D1N20R									Q612	8-729-119-76	TRANSISTOR 2SA1175-HFE					
D615	8-719-911-19	DIODE 1SS119									Q613	8-729-119-76	TRANSISTOR 2SA1175-HFE					
D616	8-719-510-48	DIODE D1N20R									Q614	8-729-119-76	TRANSISTOR 2SA1175-HFE					
D617	8-719-510-48	DIODE D1N20R									Q615	8-729-119-76	TRANSISTOR 2SA1175-HFE					
D618	8-719-510-48	DIODE D1N20R									Q616	8-729-119-76	TRANSISTOR 2SA1175-HFE					
D619	8-719-510-48	DIODE D1N20R									Q617	8-729-119-76	TRANSISTOR 2SA1175-HFE					
D620	8-719-510-48	DIODE D1N20R									Q618	8-729-119-76	TRANSISTOR 2SA1175-HFE					
D621	8-719-510-48	DIODE D1N20R									Q619	8-729-119-76	TRANSISTOR 2SA1175-HFE					

G

G1

C

The components identified by shading and mark  are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK		REF. NO.	PART NO.	DESCRIPTION	REMARK		
<b>&lt;RESISTOR&gt;</b>										
R603	1-215-859-00	METAL OXIDE	22	5%	1W	F				
R604	1-215-859-00	METAL OXIDE	22	5%	1W	F				
R605	1-202-844-00	SOLID	330K	10%	1/2W		*1-642-571-11 G1 BOARD	*****		
R606	1-202-844-00	SOLID	330K	10%	1/2W					
R607	1-215-859-00	METAL OXIDE	22	5%	1W	F	*4-341-751-01 EYELET (EY690,EY691)			
R608	1-216-341-11	METAL OXIDE	0.22	5%	1W	F				
R609	1-216-341-11	METAL OXIDE	0.22	5%	1W	F				
R610	1-249-429-11	CARBON	10K	5%	1/4W		<b>&lt;CONNECTOR&gt;</b>			
R611	1-249-429-11	CARBON	10K	5%	1/4W		CN612	*1-564-517-11 PLUG, CONNECTOR 2P		
R613	1-216-341-11	METAL OXIDE	0.22	5%	1W	F				
R614	1-216-341-11	METAL OXIDE	0.22	5%	1W	F				
R615	1-216-341-11	METAL OXIDE	0.22	5%	1W	F				
R616	1-216-341-11	METAL OXIDE	0.22	5%	1W	F				
R617	1-216-354-11	METAL OXIDE	2.7	5%	1W	F				
R618	1-216-347-11	METAL OXIDE	0.68	5%	1W	F				
R619	1-216-354-11	METAL OXIDE	2.7	5%	1W	F				
R620	1-216-354-11	METAL OXIDE	2.7	5%	1W	F				
R626	1-216-422-11	METAL OXIDE	18	5%	1W	F				
R627	1-249-425-11	CARBON	4.7K	5%	1/4W					
R628	1-249-425-11	CARBON	4.7K	5%	1/4W					
R629	1-249-413-11	CARBON	470	5%	1/4W	F	*A-1331-179-A C BOARD, COMPLETE	*****		
R630	1-249-405-11	CARBON	100	5%	1/4W	F				
R631	1-249-405-11	CARBON	100	5%	1/4W	F				
R633	1-218-268-51	METAL	0.47	5%	1/2W		<b>&lt;CAPACITOR&gt;</b>			
R634	1-218-268-51	METAL	0.47	5%	1/2W					
R635	1-249-394-11	CARBON	12	5%	1/4W	F	C701	1-163-133-00 CERAMIC CHIP 470PF	5%	50V
R636	1-249-405-11	CARBON	100	5%	1/4W	F	C702	1-163-134-00 CERAMIC CHIP 510PF	5%	50V
R637	1-216-422-11	METAL OXIDE	18	5%	1W	F	C703	1-163-133-00 CERAMIC CHIP 470PF	5%	50V
R638	1-249-377-11	CARBON	0.47	5%	1/4W	F	C704	1-163-005-11 CERAMIC CHIP 470PF	10%	50V
R639	1-249-422-11	CARBON	2.7K	5%	1/4W		C705	1-163-005-11 CERAMIC CHIP 470PF	10%	50V
R651	1-249-396-11	CARBON	18	5%	1/4W	F	C706	1-163-005-11 CERAMIC CHIP 470PF	10%	50V
R652	1-249-421-11	CARBON	2.2K	5%	1/4W		C707	1-124-477-11 ELECT 47MF	20%	16V
R653	1-249-418-11	CARBON	1.2K	5%	1/4W		C708	1-163-009-11 CERAMIC CHIP 0.001MF	10%	50V
R661	1-215-857-11	METAL OXIDE	10	5%	1W	F	C709	1-163-009-11 CERAMIC CHIP 0.001MF	10%	50V
R671	1-249-424-11	CARBON	3.9K	5%	1/4W		C710	1-163-009-11 CERAMIC CHIP 0.001MF	10%	50V
R672	1-249-420-11	CARBON	1.8K	5%	1/4W		C711	1-162-116-00 CERAMIC 680PF	10%	2KV
R673	1-249-418-11	CARBON	1.2K	5%	1/4W		C712	1-102-050-00 CERAMIC 0.01MF		500V
R674	1-249-421-11	CARBON	2.2K	5%	1/4W		C713	1-162-114-00 CERAMIC 0.0047MF		2KV
R675	1-249-424-11	CARBON	3.9K	5%	1/4W		C714	1-124-477-11 ELECT 47MF	20%	16V
R676	1-249-421-11	CARBON	2.2K	5%	1/4W		C715	1-164-004-11 CERAMIC CHIP 0.1MF	10%	25V
R677	1-249-429-11	CARBON	10K	5%	1/4W		C716	1-164-004-11 CERAMIC CHIP 0.1MF	10%	25V
R678	1-249-429-11	CARBON	10K	5%	1/4W		C717	1-126-233-11 ELECT 22MF	20%	50V
R679	1-249-424-11	CARBON	3.9K	5%	1/4W		C718	1-163-117-00 CERAMIC CHIP 100PF	5%	50V
R680	1-249-421-11	CARBON	2.2K	5%	1/4W					
R681	1-217-418-00	FUSIBLE	0.47	10%	1/2W	F				
R682	1-249-399-11	CARBON	33	5%	1/4W	F				
<b>&lt;RELAY&gt;</b>										
RY602	△1-515-888-11	RELAY					<b>&lt;DIODE&gt;</b>			
<b>&lt;TRANSFORMER&gt;</b>										
T603	△1-424-647-11	TRANSFORMER, FERRITE (SBT-1B)					D701	8-719-400-18 DIODE MA152WK		
T604	△1-450-862-11	TRANSFORMER, CONVERTER(PRT1-B)					D702	8-719-400-18 DIODE MA152WK		
T605	△1-437-213-11	TRANSFORMER, CONVERTER DRIVE					D703	8-719-400-18 DIODE MA152WK		
T606	△1-450-861-11	TRANSFORMER, CONVERTER DRIVE					D704	8-719-400-18 DIODE MA152WK		
							D705	8-719-400-18 DIODE MA152WK		
							D706	8-719-400-18 DIODE MA152WK		
							D707	8-719-911-19 DIODE ISS119		
							D708	8-719-911-19 DIODE ISS119		
							D709	8-719-911-19 DIODE ISS119		
<b>&lt;VARISTOR&gt;</b>										
VDR601	△1-809-679-11	VARISTOR					<b>&lt;JACK&gt;</b>			
VDR602	△1-809-678-11	VARISTOR								

The components identified by shading and mark **A** are critical for safety.  
Replace only with part number specified.

**C H1 H2 H3 J1 J3 J4**

**J4**

**J2**

**Y**

The components identified by shading and mark **A** are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK		
D502	8-719-912-51	DIODE ESAC25-04C		R517	1-216-089-00	METAL GLAZE	47K 5% 1/10W		
D503	8-719-931-35	DIODE EQB01-35		R518	1-216-172-00	METAL GLAZE	82 5% 1/8W		
***** <FUSE> *****									
F501	A1-532-279-11	FUSE, TIME-LAG 0.5A/250V		*A-1394-338-A	Y BOARD, COMPLETE				
	1-533-223-11	CLIP, FUSE; F501		*****					
***** <COIL> *****									
L501	1-424-648-11	TRANSFORMER, LINE FILTER (LFT)		*4-341-751-01	EYELET (EY201~EY203, EY601, EY602, EY606, EY607, EY610, EY611, EY613, EY614, EY617~EY620, EY625~EY628, EY631, EY636)				
***** <TRANSISTOR> *****									
Q501	8-729-206-05	TRANSISTOR 2SA1329-0		*4-341-752-01	EYELET (EY615, EY616, EY629, EY630, EY632~EY635)				
***** <RESISTOR> *****									
R501	1-249-427-11	CARBON	6.8K 5%	C201	1-124-557-11	ELECT	1000MF 20% 25V		
R502	A1-249-409-11	CARBON	220 5%	C202	1-164-004-11	CERAMIC CHIP	0.1MF 10% 25V		
R503	1-216-359-00	METAL OXIDE	6.8 5%	C203	1-124-557-11	ELECT	1000MF 20% 25V		
R504	1-216-359-00	METAL OXIDE	6.8 5%	C204	1-164-004-11	CERAMIC CHIP	0.1MF 10% 25V		
*****									
*1-641-503-11	J2 BOARD			C205	1-124-477-11	ELECT	47MF 20% 16V		
*****									
***** <CAPACITOR> *****									
C510	1-124-477-11	ELECT	47MF	C206	1-124-477-11	ELECT	47MF 20% 16V		
C511	1-124-477-11	ELECT	47MF	C208	1-164-004-11	CERAMIC CHIP	0.1MF 10% 25V		
C512	1-124-477-11	ELECT	47MF	C209	1-124-234-00	ELECT	22MF 20% 16V		
C513	1-163-009-11	CERAMIC CHIP	0.001MF	C210	1-136-165-00	FILM	0.1MF 5% 50V		
C514	1-163-005-11	CERAMIC CHIP	470PF	C211	1-163-141-00	CERAMIC CHIP	0.001MF 5% 50V		
*****									
***** <CONNECTOR> *****									
CN501	*1-564-525-11	PLUG, CONNECTOR 10P		C212	1-136-165-00	FILM	0.1MF 5% 50V		
***** <DIODE> *****									
D510	8-719-110-30	DIODE RD12ES-B1		C213	1-124-903-11	ELECT	1MF 20% 50V		
D511	8-719-110-30	DIODE RD12ES-B1		C214	1-102-121-00	CERAMIC	0.0022MF 10% 50V		
D512	8-719-110-30	DIODE RD12ES-B1		C215	1-130-491-00	MYLAR	0.047MF 5% 50V		
D513	8-719-110-30	DIODE RD12ES-B1		C216	1-136-165-00	FILM	0.1MF 5% 50V		
***** <JACK> *****									
J510	1-562-837-21	JACK		C222	1-126-160-11	ELECT	1MF 20% 50V		
J511	1-565-666-12	TERMINAL, S 4P		C223	1-126-163-11	ELECT	4.7MF 20% 25V		
J512	1-563-500-21	JACK BLOCK, PIN (L TYPE) 2P		C224	1-124-477-11	ELECT	47MF 20% 16V		
***** <COIL> *****									
L510	1-408-397-00	INDUCTOR	1UH	C225	1-126-101-11	ELECT	100MF 20% 16V		
L511	1-408-409-00	INDUCTOR	10UH	C227	1-126-233-11	ELECT	22MF 20% 50V		
L512	1-408-409-00	INDUCTOR	10UH	*****					
***** <RESISTOR> *****									
R510	1-247-741-11	CARBON	150 5%	C228	1-124-479-11	ELECT	330MF 20% 25V		
R511	1-216-049-00	METAL GLAZE	1K 5%	C229	1-164-004-11	CERAMIC CHIP	0.1MF 10% 25V		
R514	1-216-172-00	METAL GLAZE	82 5%	C230	1-126-103-11	ELECT	470MF 20% 16V		
R515	1-249-404-00	CARBON	82 5%	C231	1-101-006-00	CERAMIC	0.047MF 50V		
R516	1-216-077-00	METAL GLAZE	15K 5%	C232	1-101-006-00	CERAMIC	0.047MF 50V		
***** <CONNECTOR> *****									
CN10	1-561-534-00	SOCKET 21P		C233	1-101-006-00	CERAMIC	0.047MF 50V		
CN201	*1-564-515-11	PLUG, CONNECTOR 12P		C234	1-124-477-11	ELECT	47MF 20% 16V		
CN202	*1-564-509-11	PLUG, CONNECTOR 6P		C235	1-124-589-11	ELECT	47MF 20% 16V		
CN203	*1-564-510-11	PLUG, CONNECTOR 7P		C601	A1-136-360-51	FILM	0.22MF 20% 250V		
***** <CONNECTOR> *****									
C604	A1-164-246-11	CERAMIC	0.0022MF	C606	A1-136-360-51	FILM	0.22MF 20% 250V		
C607	A1-161-964-61	CERAMIC	0.0047MF	C607	A1-161-964-61	CERAMIC	0.0047MF 250V		
C608	A1-161-964-61	CERAMIC	0.0047MF	C608	A1-161-964-61	CERAMIC	0.0047MF 250V		
C609	A1-162-578-51	CERAMIC	0.0047MF	C609	A1-162-578-51	CERAMIC	0.0047MF 20% 400V		
***** <CONNECTOR> *****									
C610	A1-125-497-11	ELECT (BLOCK)	100MF	C610	A1-125-497-11	ELECT (BLOCK)	100MF 20% 400V		
C611	A1-161-964-61	CERAMIC	0.0047MF	C611	A1-161-964-61	CERAMIC	0.0047MF 250V		

Y

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
CN204	*1-564-513-11	PLUG, CONNECTOR 10P		R206	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
CN205	*1-564-505-11	PLUG, CONNECTOR 2P		R207	1-247-738-11	CARBON	82 5% 1/2W F
CN206	*1-564-506-11	PLUG, CONNECTOR 3P		R208	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
CN601	*1-580-843-11	PIN, CONNECTOR (POWER)		R209	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
CN602	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		R210	1-216-105-00	METAL GLAZE	220K 5% 1/10W
CN603	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		R211	1-216-295-00	METAL GLAZE	0 5% 1/10W
	<DIODE>			R212	1-249-387-11	CARBON	3.3 5% 1/4W
D202	8-719-110-30	DIODE RD12ES-B1		R213	1-249-417-11	CARBON	1K 5% 1/4W
D203	8-719-110-13	DIODE RD9.1ES-B2		R214	1-249-438-11	CARBON	56K 5% 1/4W
D204	8-719-911-19	DIODE ISS119		R215	1-249-404-00	CARBON	82 5% 1/4W
D205	8-719-109-85	DIODE RD5.1ES-B2		R216	1-249-404-00	CARBON	82 5% 1/4W
D206	8-719-110-30	DIODE RD12ES-B1		R218	1-249-404-00	CARBON	82 5% 1/4W
D207	8-719-110-30	DIODE RD12ES-B1		R219	1-249-404-00	CARBON	82 5% 1/4W
D208	8-719-110-30	DIODE RD12ES-B1		R220	1-249-403-11	CARBON	68 5% 1/4W
D209	8-719-110-30	DIODE RD12ES-B1		R221	1-216-033-00	METAL GLAZE	220 5% 1/10W
D210	8-719-110-30	DIODE RD12ES-B1		R222	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
D211	8-719-110-30	DIODE RD12ES-B1		R223	1-216-041-00	METAL GLAZE	470 5% 1/10W
D212	8-719-110-30	DIODE RD12ES-B1		R224	1-216-033-00	METAL GLAZE	220 5% 1/10W
D213	8-719-110-30	DIODE RD12ES-B1		R225	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
D214	8-719-911-19	DIODE ISS119		R227	1-216-047-00	METAL GLAZE	820 5% 1/10W
D215	8-719-400-18	DIODE MA152WK		R228	1-216-089-00	METAL GLAZE	47K 5% 1/10W
<b>D601</b>	<b>A 8-719-510-53</b>	<b>DIODE D4SB60L</b>		R229	1-216-295-00	METAL GLAZE	0 5% 1/10W
	<FUSE>			R230	1-216-023-00	METAL GLAZE	82 5% 1/10W
<b>F601</b>	<b>A 1-576-230-11</b>	<b>FUSE (H.B.C.) 3.15A/250V</b>		R231	1-216-295-00	METAL GLAZE	0 5% 1/10W
	1-533-223-11 CLIP, FUSE; F601			R232	1-216-033-00	METAL GLAZE	220 5% 1/10W
	<FILTER>			R233	1-216-049-00	METAL GLAZE	1K 5% 1/10W
FL201	1-424-261-11	FILTER, SIGNAL LINE NOISE		R234	1-216-049-00	METAL GLAZE	1K 5% 1/10W
FL202	1-424-261-11	FILTER, SIGNAL LINE NOISE		R235	1-216-021-00	METAL GLAZE	68 5% 1/10W
FL203	1-424-261-11	FILTER, SIGNAL LINE NOISE		R236	1-249-417-11	CARBON	1K 5% 1/4W
FL204	1-424-261-11	FILTER, SIGNAL LINE NOISE		R237	1-249-417-11	CARBON	1K 5% 1/4W
FL205	1-424-261-11	FILTER, SIGNAL LINE NOISE		R238	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
FL206	1-424-261-11	FILTER, SIGNAL LINE NOISE		R239	1-216-085-00	METAL GLAZE	33K 5% 1/10W
	<IC>			R240	1-216-033-00	METAL GLAZE	220 5% 1/10W
IC201	8-752-053-17	IC CXA1114P		R241	1-216-073-00	METAL GLAZE	10K 5% 1/10W
IC202	8-759-041-82	IC TDA1013B		R242	1-216-073-00	METAL GLAZE	10K 5% 1/10W
	<COIL>			R244	1-216-073-00	METAL GLAZE	10K 5% 1/10W
L201	1-412-533-21	INDUCTOR	47UH	R245	1-216-073-00	METAL GLAZE	10K 5% 1/10W
	<TRANSISTOR>			R246	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R247	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q203	8-729-230-46	TRANSISTOR 2SA1162-YG		R249	1-216-025-00	METAL GLAZE	100 5% 1/10W
Q204	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R250	1-216-073-00	METAL GLAZE	10K 5% 1/10W
Q205	8-729-230-46	TRANSISTOR 2SA1162-YG		R251	1-216-089-00	METAL GLAZE	47K 5% 1/10W
Q206	8-729-119-79	TRANSISTOR 2SC2785-FEK		R252	1-216-025-00	METAL GLAZE	100 5% 1/10W
Q207	8-729-230-46	TRANSISTOR 2SA1162-YG		R253	1-216-049-00	METAL GLAZE	1K 5% 1/10W
	<RESISTOR>			R254	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JR200	1-216-296-00	METAL GLAZE	0 5% 1/8W	<b>R601</b>	<b>A 1-205-909-11</b>	<b>WIREWOUND</b>	<b>3.3 5% 10W F</b>
R201	1-216-295-00	METAL GLAZE	0 5% 1/10W	R603	1-249-443-11	CARBON	0.47 5% 1/4W F
R202	1-216-049-00	METAL GLAZE	1K 5% 1/10W		<RELAY>		
R204	1-216-049-00	METAL GLAZE	1K 5% 1/10W	<b>RY601</b>	<b>A 1-515-579-11</b>	<b>RELAY</b>	
R205	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W		<TRANSFORMER>		
	<COIL>			<b>T601</b>	<b>A 1-424-391-11</b>	<b>TRANSFORMER LINE FILTER</b>	
	<TRANSISTOR>			<b>T602</b>	<b>A 1-424-391-11</b>	<b>TRANSFORMER LINE FILTER</b>	
	<RESISTOR>				<THERMISTOR>		
	<TRANSFORMER>			<b>THP601</b>	<b>A 1-806-165-12</b>	<b>THERMISTOR (POSITIVE)</b>	
	<COIL>				*****		

**PW**

The components identified by shading and mark **▲** are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK
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\*9-902-396-01 PW BOARD  
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9-902-398-01 SWITCH, TACTIL

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MISCELLANEOUS  
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▲1-426-590-11 COIL, DEMAGNETIZATION  
▲1-451-354-11 DEFLECTION YOKE (Y11SLA)  
1-452-094-00 MAGNET, ROTATABLE DISK; 15MM  $\phi$   
1-452-512-11 MAGNET  
1-466-678-11 SWITCH BLOCK

J501 ▲1-540-054-11 INLET, AC  
1-561-530-00 CONNECTOR (DC POWER)

SP901 1-544-187-11 SPEAKER  
V901 ▲8-735-821-05 PICTURE TUBE (A27KGC10X)

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ACCESSORIES AND PACKING MATERIALS  
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PART NO.	DESCRIPTION	REMARK
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1-501-397-41 ANTENNA, TELESCOPIC (AN-18G)  
▲1-532-325-11 FUSE, TIME-LAG 6.3A/250V  
▲1-690-827-11 CORD SET, POWER  
▲1-690-828-11 CORD, DC POWER  
\*3-704-301-01 BAG (STANDARD), PROTECTION  
  
3-754-681-11 MANUAL, INSTRUCTION  
\*4-035-665-01 CUSHION (UPPER) (ASSY)  
\*4-035-666-01 CUSHION (LOWER) (ASSY)  
\*4-035-667-01 TRAY  
\*4-035-675-01 INDIVIDUAL CARTON

REMOTE COMMANDER

1-693-075-11 REMOTE COMMANDER (RM-818)  
9-900-029-01 COVER, BATTERY (FOR RM-818)